MODEL TRAINS

In this issue:

Fowler 4F in 0 gauge

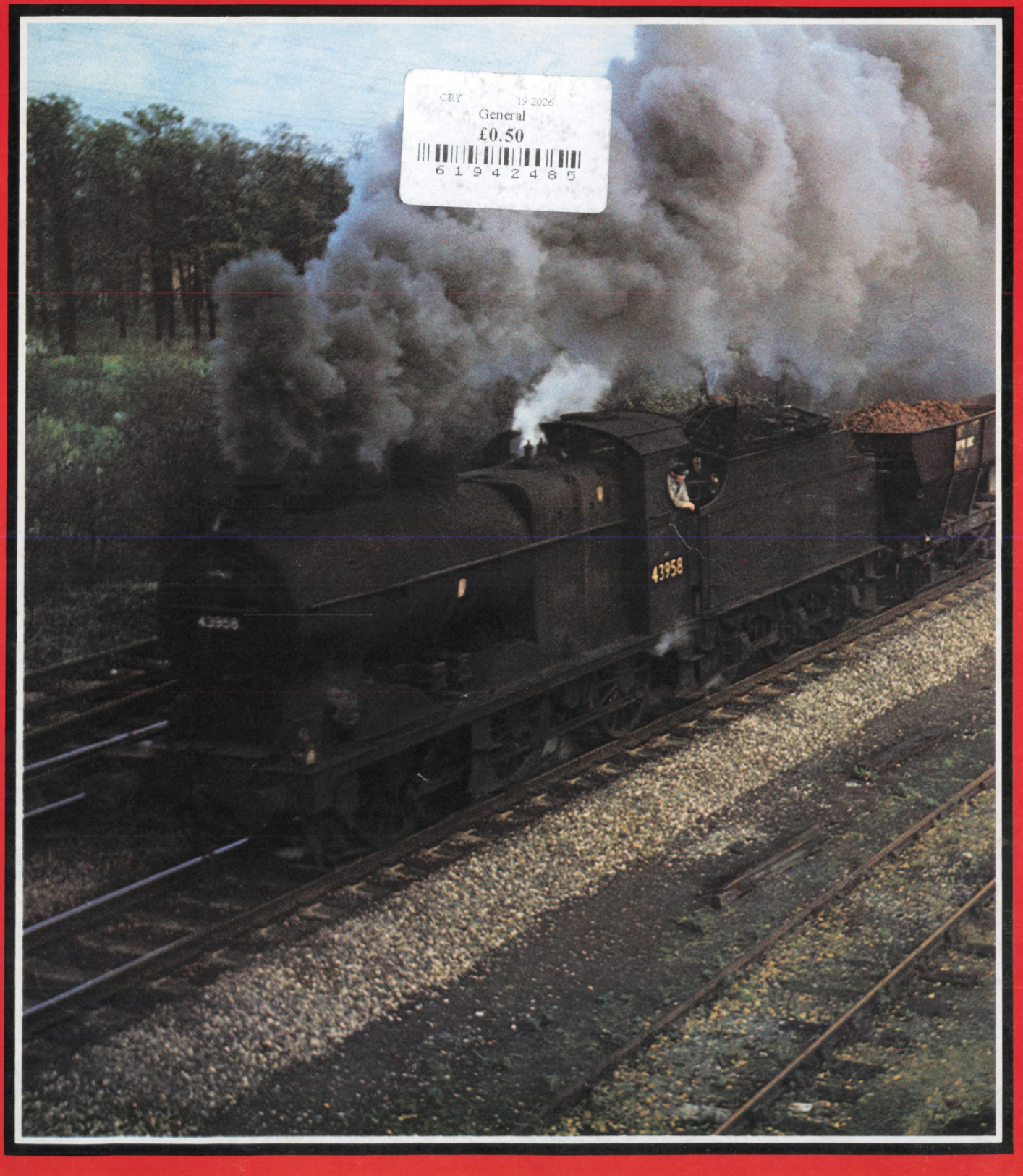
Cast metal Peppercorn kit

Converting the Fowler 2-6-4T

Compact 00 tram layout

Classic German branch line, plus reviews, tests, and much more!

June 1981 **55p**



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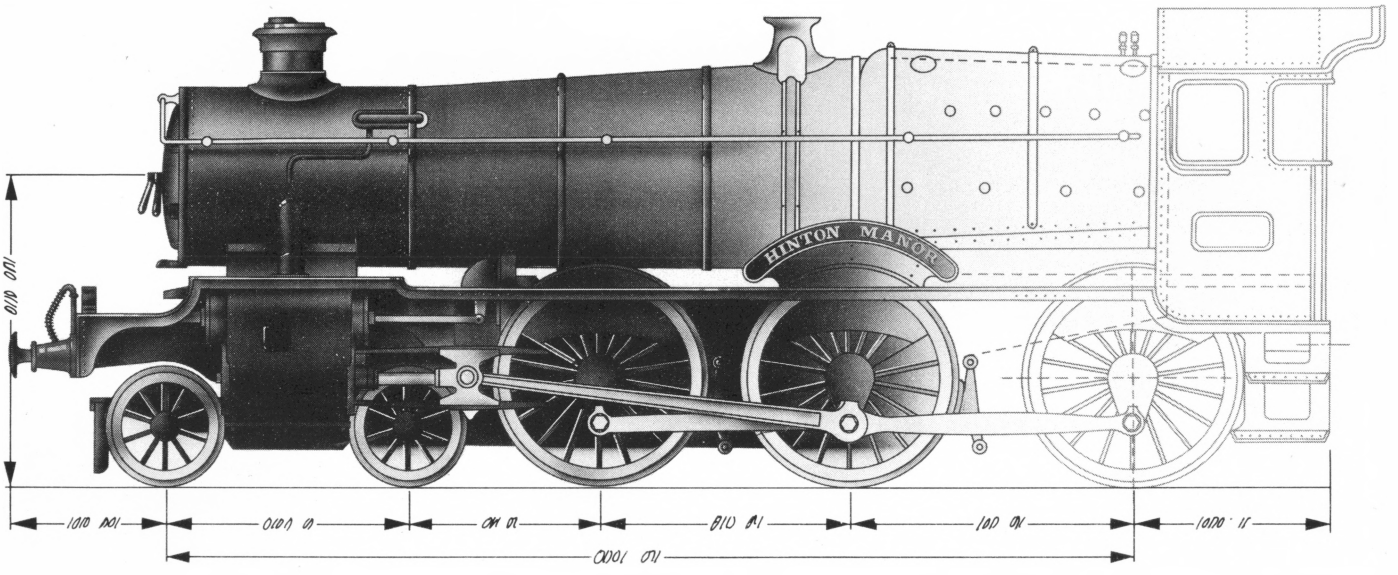

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MODEL TRAINS

JUNE 1981

AIRFIX

VOLUME 2 NUMBER 6

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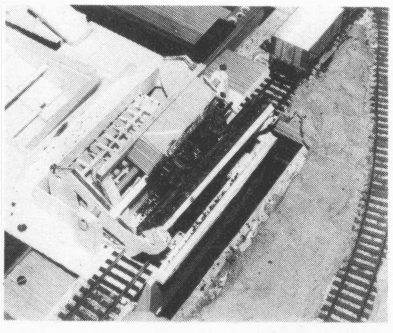

Above: *Plastic card engineering by Dave Larkin produced this working tippler modelled on the Southfleet original. Dave wrote about the Southfleet branch in the March 1981 issue, and this month we show his model of the branch under construction – see page 325.*

On the cover
No 43958 was one of the Midland Railway 4Fs of 1921 – 22 vintage, with right hand drive and beaded splashers. It was still working hard with an ore train in the West Midlands when this photo was taken in 1963. Note coal rails, no totem on tender, and cleaned area around number (J. Bryan Hicks).

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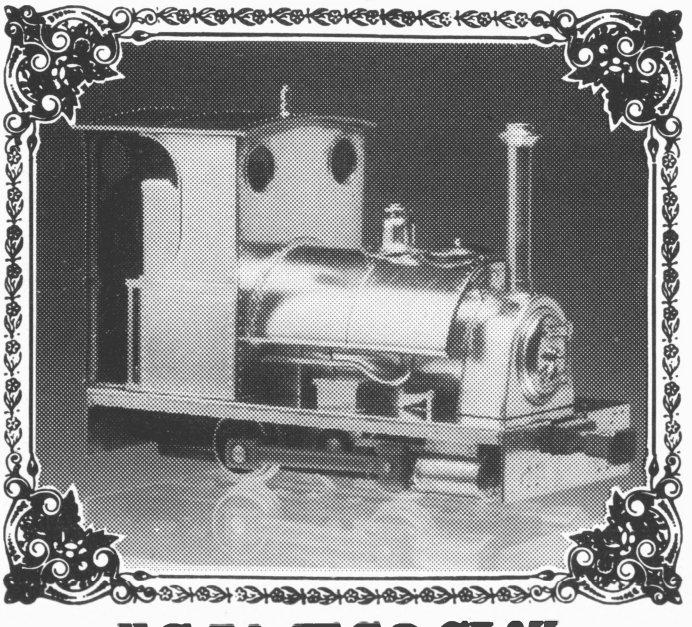

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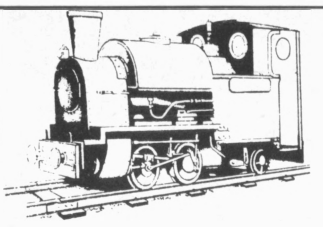

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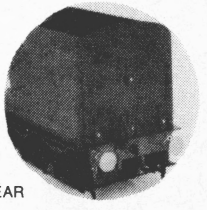

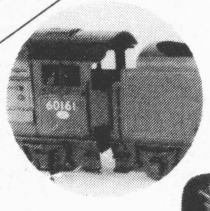

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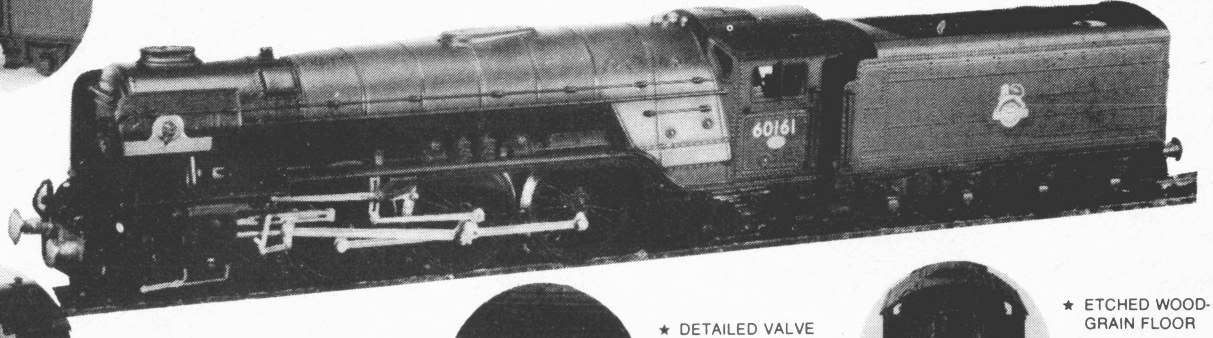

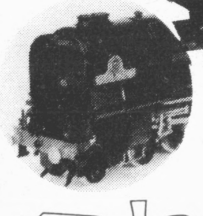

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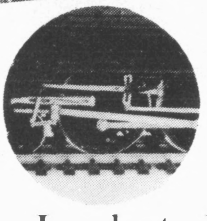

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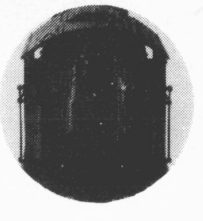

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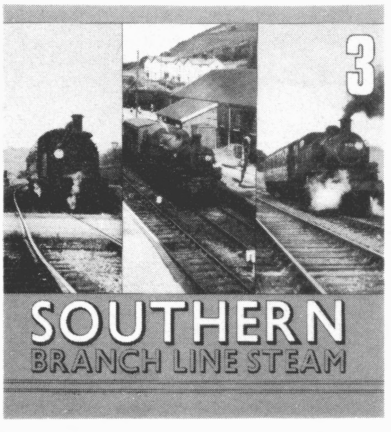

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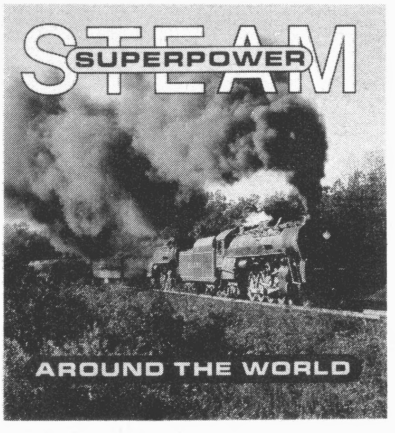

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There is still exciting steam operation around, as we all know, and this picture by Richard Gardner shows a scene on the Geilenkirchener Kreisbahn as the guard goes forward to throw the turn-out as two trains pass each other. There are no signal boxes on the line and everything is hand-operated just like a model railway may be. The mixed train is approaching from Gillrath. Full story and more pictures and plans are in this month's 'Basis for a Layout' feature on page 314.

Editor's desk

Providing a balanced coverage which pleases everybody is always our editorial goal, not always easy because model railways is such a vast and fascinating subject. Every time we run an article on German railways, for instance, we get letters asking for much more of the same, but we get letters in the same post asking us to lay off the German subjects and do more on British subjects! On balance we have had more letters for coverage of overseas railways than against. My own view is that if models of overseas railway items are on sale then there must be the interest among the modelling public, and this is supported, I think, by the growing numbers of retailers stocking such models. Indeed there are now several shops specialising in overseas models in Great Britain to the exclusion of British outline. To keep this in perspective there are dealers in USA specialising in British models (and some active modellers of British style layouts in USA and Canada); I've not come across any such dealer on the continent of Europe, though they may be there. However in HO and N scales within Europe most leading makers include German, French, Dutch, etc, models within their various ranges, so the incentive for the modeller to look further afield for choice of subject may not be there.

Several of our 'anti-foreign model' correspondents have pointed out that there are German, French, and American magazines for those who want them. No argument with this, except that it is not always easy to get them when you want them without the hassle of mail order and subscriptions. In addition there is the language problem, America excepted, which is not easy for everyone to overcome . . . and again yet more expense. We've tried to give you a happy compromise by offering useful material on foreign railways, and picking our coverage so that it does not, in fact, duplicate what the foreign magazines already do. For example we covered DB Class 94 conversions last September, which I don't ever recall seeing in any German model magazine before we came along with it!

This month we give you a typical German branch line idea based on an existing steam-worked Kreisbahn, suitable for standard or narrow gauge, and specifically ideal if you collect Bemo models. Likewise we meet reader requests for an American station track plan . . . and an American magazine probably would not cover it our way because they would assume their readers to be familiar with such stations already! But if you are just venturing into German or American modelling from the heart of Great Britain I'm sure you'll find these articles useful. Even if you remain staunchly true to British outline modelling you won't be wasting your time, for almost every track plan or idea can be adapted across frontiers, I find, even where practices may be a little different.

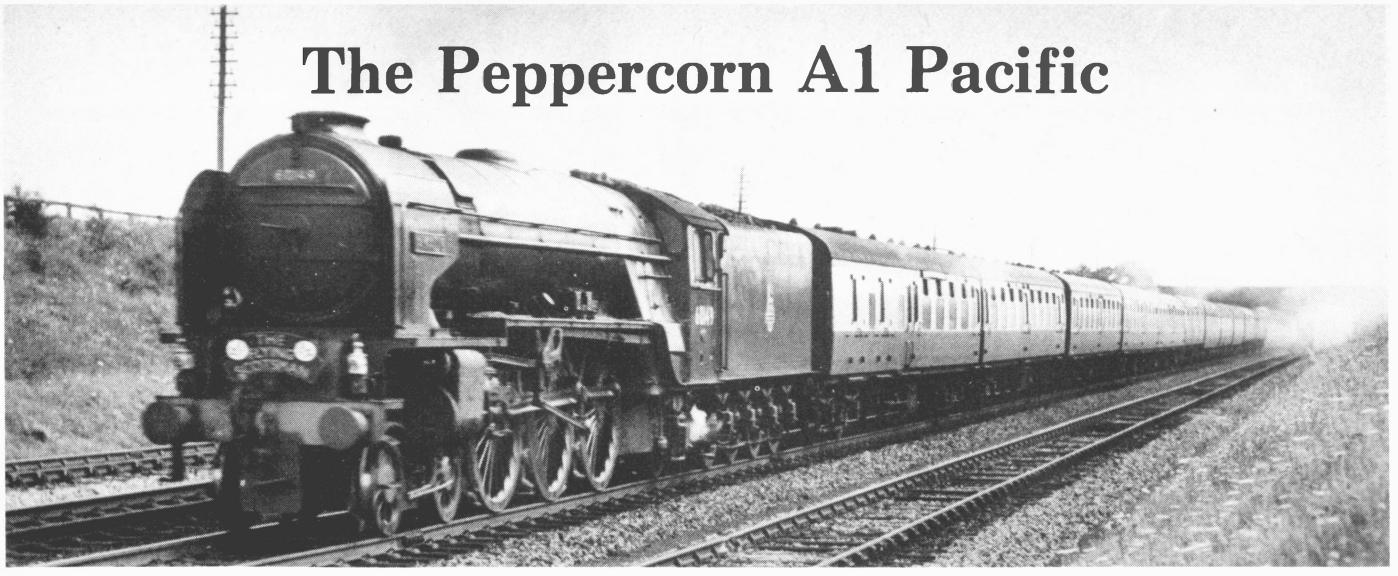
The Lima gauge 0 4F and 'Roadscene' this issue are intended to complete last month's introduction to gauge O modelling, though a few more gauge O features are in the pipeline. Like ideas across frontiers, work in one scale is often equally applicable to others. If you are that fairly rare breed, a British outline HO modeller, just about all the work described for gauge O is equally necessary on Lima's original HO version of the 4F, now discontinued, but worth looking for if British HO appeals to you.

Next month, more on trams and part 2 of Ralph Laughton's On16.5 NG project. Also another look at oval layouts with two track plan ideas to suit. And yet another DMU conversion. Join us then.

Chris Ellis

Below: *An evening scene at Lemont, Illinois, as a Santa Fe freight rolls westward hauled by two ATSF SD-45s with a leased Norfolk & Western SD-45 sandwiched between them. Fuel tanks just visible are served by barge on the nearby canal.* **Bottom:** *'Maintenance-of-way' train living cars at Lemont, made up from two converted box cars and an ancient combine. More about this station on page* 326.

The Peppercorn A1 Pacific



'The Flying Scotsman' in the early 1950s looks a grand sight in charge of 60149 Amadis *with six new BR Mk 1 coaches nearest the engine and Gresley coaches in the middle of the train. Note train nameboard, white oil lights above the electric lights, and an extra-large protective plate behind the front coupler (Photomatic). Despite the very standardised nature of the A1 design there was surprising variation in small details. The protective plate behind the coupler is a good example – slightly different for virtually every loco.*

Mike Wightman makes the new DJH 00 scale kit of this impressive LNER type and reports his findings.

It was as a young lad, spending much of my time in Yorkshire with relatives, that I first became familiar with these engines. While involved with other things, between trains, the call of 'A Windy' had us scrambling for vantage points. 'ABC' books at the ready, we knew that 'A Windy' (an engine with smoke deflectors) would invariably be a 'namer' though not as prestigious as a 'Streak' or 'The Flying Scotsman' and they were worth more in our books than just a number. Of the many types with smoke deflectors on our line between Doncaster and Leeds it was the A1s that appeared to own the show. There were plenty of A3s coming through but they always seemed to be out of sorts, having to work hard, and filthy – much too filthy for the thoroughbreds they were supposed to be. The A1s however, moved so easily that it appeared as if they were on a never ending down grade and their green paint could clearly be seen.

It was for these reasons I was pleased when one of the leading cast metal kit manufacturers announced the arrival of the Peppercorn A1. I had immediate visions of those beauties like *Kittiwake, Bois Roussel, Aboyeur, Amadis* and my favourite *St Mungo.* When I got my kit, I dived straight into the box to be astounded by the number of parts. My fears and apprehensions were calmed somewhat after looking at the comprehensive instruction sheets. I still remained nervous about the etched brass parts as I've never been that confident about my soldering ability. However, after watching some of the 'peers' of the hobby at work with some soldering, I realised that I was just as competent as anyone.

There are many different soldering techniques, some good, but most that I have seen can only be described as poor or indifferent. I will not presume to tell the experts anything, but I must state the proper way to solder before we go any further. First you must have a decent sized iron, 25 watt minimum. The reason is, that when soldering parts of any size, the heat diffuses into the parts and does not become hot enough to melt the solder. Now, the whole key to a good solder joint is this. Apply flux to the parts to be joined. The iron with a bead of solder on the tip, should now be brought into contact with the surface. The flux will begin to boil and then the solder will flow onto the surface. Move the iron along as the solder flows to the surface or edge of the piece. Reload the iron with another bead of solder if necessary, but don't overdo it. When you have both faces of the parts to be joined, lightly but completely covered with solder, they are what is known as 'tinned'. All one needs to do now is join the two faces together, add a little flux if you like, and then apply heat. On a long or seam joint start at one end with the iron and tack or join two or three places. This holds the alignment as you then start at the beginning and heat the joint again. As the two soldered faces start to blend together move the iron slowly along the joint. It really is easy and done this way can even be carried out with only two hands.

Before you start, there are a couple of things to cover first. It is highly recommended that you pick the loco you wish to model before you start. A good reference book is advisable and/or photographs. There is nothing better than the RCTS Publication *Locomotives of the LNER Part 2A* (tender engines class A1 to A10). The price of the book is £4.25 and it is available fron N.J. Clayton, Rannoch, Upper Way, Upper Longdon, Rugeley, Staffs, or from railway bookshops.

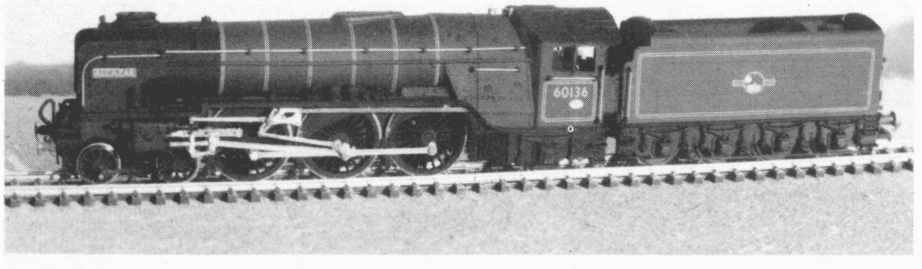
In choosing the loco you want to model it is important to know the nameplates available. I have listed those made to date to help you out.

60114 *	60136 X	60151 X
60115 *	60137 X	60152 X
60116 X	60139 X,*,D	60156 X
60120 X,D	60140 D	60158 *,D
60127 D	60141 X	60159 X
60128 D		
60130 X*		
60131 X,*	60143 X	60161 X,D
60134 X,D	60146 X,*	
60135 X	60147 X	

(X) Kings Cross), (*) Lion Fireworks Co., (D) DJH.

The last thing to consider before you begin is the motor to be used. The motor is after all, the heart of the matter. I used the new coreless Kean RG-4 advertised as the best, to which I heartily testify. This motor/gearbox comes all assembled so there is no meshing to worry about. The gears themselves are not the common single unit worm and pinion which are terribly inefficient, noisy and dif-

Overall view of Mike Wightman's model shows the polished hand rails (which he prefers, though probably never done on the prototype even when new), and the very fine finish achieved with an air brush and Kemco BR transfers.



ficult to align, but beautiful bevel/spur reduction gears. All you need to do is put the gear box part between the frames, place in the bearing, slide in the axle through the final gear and that is about it. All that remains to do is add the wheels to the axle and pick-up wires to the motor brush tabs.

Installation is simple, as you can see, but the real beauty is the performance. With all motors known to me, currently available, it takes a fair-sized turn of the controller to get any movement. What movement you do get is very difficult to maintain as the variable controller, at the slow end, is only supplying 3-4 volts. At such low voltage ratings the 12 volt rated motors and mechanically inefficient worm gears cough in fits and starts and can easily stall on a grain of dust. The motors of today draw current at anything from 200 milli-amps to 750 milli-amps (m/a). Keep in mind the average output of 12 volt controllers is 1½ amps (1500m/a) just to show how heavy a draw some of these motors are; two of those 750 m/a monsters and the controller cuts out. The Kean RG-4 on the other hand draws around the mark of 80 m/a maximum! It moves with mere *milli* volts (.04 volt to be exact) with that marvellous gear train, it keeps moving. Expensive? Have you ever heard of a 12v DC model loco running on one HP11 battery? The Kean RG-4 will. Ordinary gears and motors take the best part of ten pounds, so ten pounds more isn't that much more for the best. If ever an item was worth every penny, this is it. I'll just say one final thing about it . . . once tried, absolutely sold.

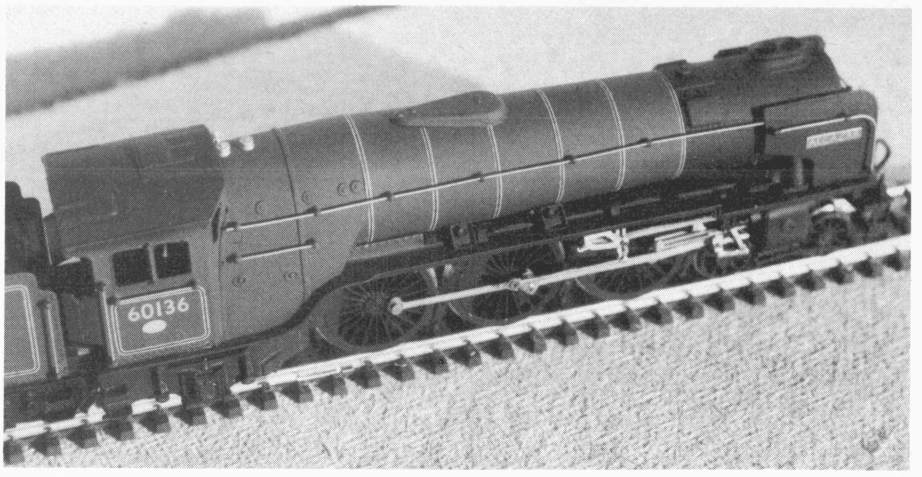
To get to the kit itself the instructions take you by the hand and take you right the way through to completion. Except for the areas itemized below there are no problems worth worrying about.

Step 11: I did not find any necessity for the brass etched wheel axle washers. This is especially true for a track with a radius less than 24 inches. It may be acceptable on the front axle to minimize slide bar interference. Be sure you check for this when you get to 14/15.

Step 17: The problem here is the rivets. To fix the rivets, one has to tap the ends over. Easier said than done. If you can buy hollow ended rivets from your local specialist railway shop, by all means do it. To do the riveting a metal plate is required. It can be almost any size but must be the hard surface that the rivets are tapped against. Place a rivet on this surface pointing up. Add the valve gear parts as required. To seal this end you should give light hammer taps that swell or flatten the end to retain the parts. That is the theory, but what usually happens is that the rivet shaft mushrooms out binding the moving valve gear parts. I ended up putting in a rivet and fixing it with a bead of solder. This is very tricky as the solder can flow through seizing the whole lot. The hollow ended type is easily flattened out with nothing more sophisticated than tapping a nail into the hollow end.

Step 20: When it comes to current pick-ups everyone has their own preference or so it seems. In my opinion, the best and most reliable is also the easiest. Quite simply all the wheels and axles on *one* side of the engine are shorted out and the tender wheels on the other side are shorted out. One motor wire attaches to the tender chassis. With this system the ending and tender must be insulated where they might touch. The driving wheels supplied are all insulated but the instructions give a method for shorting them out. Alternatively, you can obtain the Romford uninsulated drivers for the one side. The tender wheels can be shorted out by soldering a bit of wire from the axle to the required wheel back. The bogie and pony wheels can be uninsulated, if required, by filing the axle ends flush with the wheel boss and a bridge of solder added across, that is providing you use the Jackson wheels provided.

The best way to make an electrical coupling is to solder a rail joiner to one of the units (engine or tender) and a short piece of rail on a wire from the other.



Close view of 60136 Alcaza *modelled in 00 from the DJH kit. Note later lipped type chimney and the banjo dome position, mentioned in text. Take special note of the excellent finish which Mike has achieved on this model. It takes care and patience to apply lining as neatly and evenly as this.*

Body construction

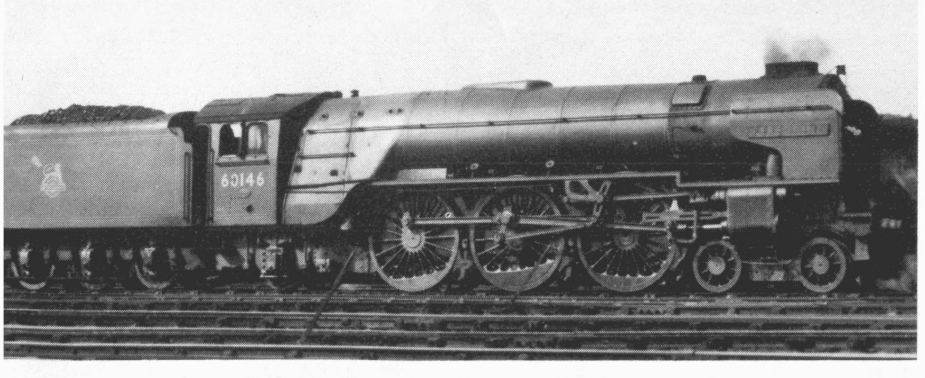
Steps 2, 5, and 8: This I found to be the most difficult part of the assembly. Here one has to mate the firebox to the cab and boiler. It will pay you to study some photos on this area. There is a lot of leeway possible on the shape here. The boiler should have its highest pitch at the firebox joint. Get the part right and your model will carry the look of an A1. If not, it will look decidedly underweight and anaemic. The best way I found was to concentrate on the firebox, cab and boiler joints. By filing the joint faces and so adjusting the angles you can dictate the height and slope here. Do not ignore the firebox/footplate joint because this filed to shape can lower the lot again. You can on this joint use plastic padding as it is a superb medium for such filling. It is not necessary to use part 6 as it is easier just to glue strips of plastic inside. Do take extra time on this step as it's worth it for an accurate model.

Step 10: Assemble as instructed with the floor unit to the rear of the cab. The backhead, part 11, is glued at an angle, attaching at the top and bottom tongue slot.

Step 12: Part 22 shows the alternative domes available. I'm really pleased to see that somebody has got the LNER Banjo Dome correct for once. There is however, an error concerning the round dome which is sometimes used for the Diagram 117 boiler. The Diagram 117 boiler, usually used the standard banjo dome cover. But, here is the point. It was mounted on the third boiler band from the smokebox. If your model is to portray the Diagram 117 boiler one of the domes will be one band further forward. A complete list of the engines fitted with these boilers and when, will be found in the RCTS book previously commended. Parts 23 are the chimneys. There are two offering a choice because of the early and standard types. I must say both are pretty poor and don't have the holes even partially through. This isn't so much of a problem as it is a nuisance. A suitable replacement can be easily obtained from Crownline Models or others for about 35p.

Step 15: This concerns the handrails and mounting. I replaced the plastic knobs with metal ones, obtainable from your local

No 60146 Peregrine *shows a very large BR totem commonly carried on these engines. Also it has the early type of chimney and the hand rails are painted to match the body colour – BR Green (Photomatic).*



railway specialist shop. The important part here is to ignore the location dimples on the boiler/firebox mouldings. This is especially true when the main components are subject to any variation as in steps 2, 5 and 8. Assemble the main components such as the wheels, frames, body assemble and mount on rails which is in turn mounted on a smooth flat surface. The next part is to make a height gauge. This can be made with a pin or needle in or on a block of wood or through a matchbox or what have you. Using a photo for reference establish the height of the rails in comparison with other reference points such as the windows on the cab. Now lightly scratch a line (horizontally) in the proximity of each knob. Use reference points on photos such as a position just in front of the middle firebox band, halfway between the 4th and 5th band, etc. Do this for both sides checking photos, as both sides are not always identical. Next, a vertical scratch made by hand will give you an exact location to drill for the knobs. Fit the knobs before painting, but the rails themselves may or may not be inserted at this point. Strictly speaking they should be painted the same colour as the body behind them, but many modellers will want to leave them bright.

Tender construction

This is quite straightforward but I must admit to some concern regarding the fixed location of the four axles. I could not see any way round this though, if I wanted to have the same brake gear installed. Assembled as instructed it all works as intended and it is not prone to derailments as I feared. Do remember to short out the required side if you are using the method covered in step 27 of the engine frame. Remember also to insulate any areas that may touch the engine. I used .005 inch or .010 inch plastic 'super-glued' to the faces of the tender footplate. I used the wire loop on the engine and made a .040 inch plastic tongue on the tender with a plastic pin through to the hook under the engine loop.

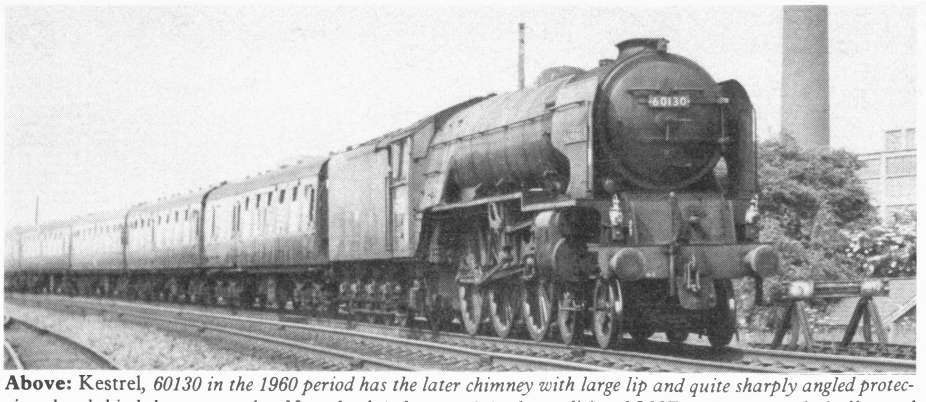
General

I used and highly commend a Loctite Superglue to assemble this kit. I know a lot of people are wary of this one as they regard it as dangerous. I think a lot of things are dangerous if they are not used properly. Be neat in your work and in using the tube of super glue make sure that there is no glue left in the tip, by tapping it down, sucking it back by squeezing the sides and/or storing it upright when not in use. Doing this will prevent it from drying in the tip and thus removing the temptation of squeezing the tube to get it out. This is where most accidents happen and when the glue suddenly squirts out. Above all, keep it and other potential dangers out of reach of unqualified users, especially children.

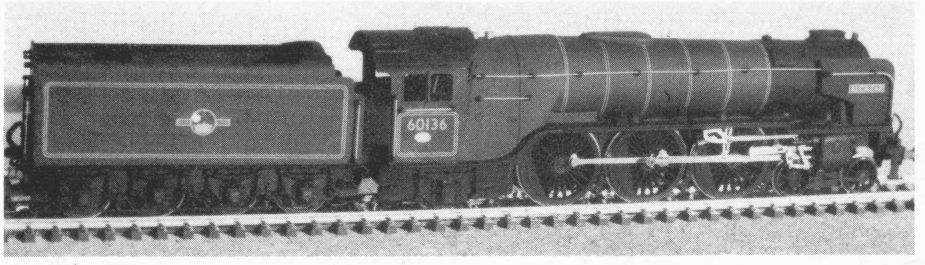
Painting and finishing

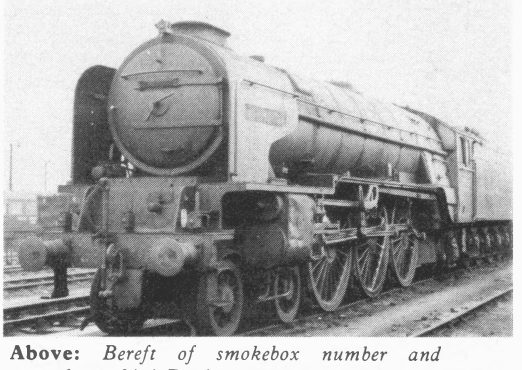
The first step here is to wash the body parts in warm soapy water to remove any grease or

continued on page 293



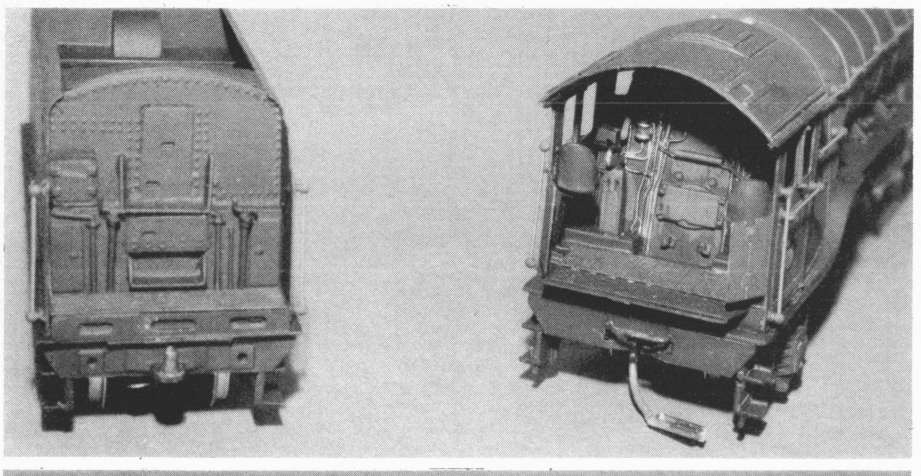
Above: Kestrel, *60130 in the 1960 period has the later chimney with large lip and quite sharply angled protective plate behind the rear coupler. Note the A-1 class mark in the traditional LNER position on the buffer, and the conduit leading cables to the upper electric light.* **Below:** *Another view of the model.*

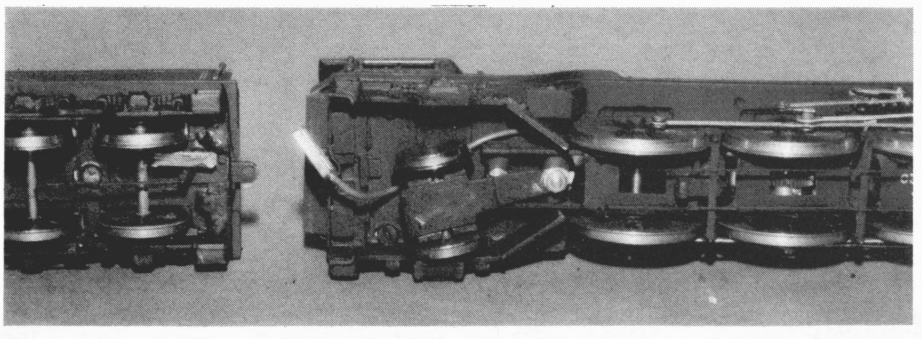




Above: *Bereft of smokebox number and nameplates, this is* Borderer, *60155, standing in the scrap road at York, September 4, 1965. Electric headlights each have an adjacent lamp iron. Later chimney is fitted and the protective plate behind the coupler is set vertically on this loco. This is one of the final batch, fitted with roller bearings (N.Skinner).*

Below: *Close view shows cab detail, including high set bucket seats for the crew, and the tender front fittings (non-corridor tender).* **Bottom:** *Here can be seen the suggested electrical linkage using a couple of rail joiners soldered to the wire as suggested in text. The Kean motor drives the centre axle and there is plenty of room for it in chassis and boiler. Note also the screw assembly of component sections.*





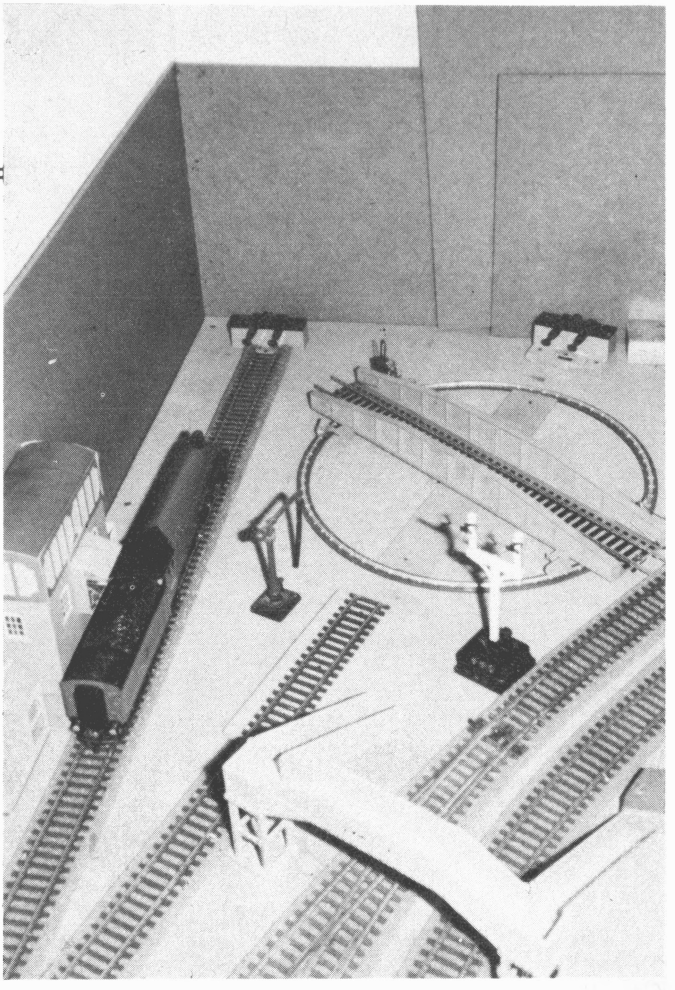
Peppercorn A1 Class

Last of the LNER type Pacifics, the A1s were a direct development from Sir Nigel Gresley's original design, the A1 of 1922 which was later modified to become the famous A3 class. In fact, the original *Great Northern* was rebuilt by Thompson, Gresley's successor to become the prototype of the A1s in 1945. A production series was produced under A.H.Peppercorn in 1948 and the class number sequence under BR ownership was 60113-60162. Boiler pressure was 250lb but most other details were similar to the A3.

Turntable on the cheap

A simple and inexpensive electrification of the Airfix turntable . . .

by John Broadley



The Airfix turntable after the minor additions described here is shown installed on the author's layout. Much scenic work remains to be done, but the work on the turntable bridge can be clearly seen.

The Airfix turntable has been on the model market, with periodic exceptions, for many years and so many methods of electrifying it have appeared in the model press that, but for this method being within the scope of a beginner, I would hesitate to present it to readers of this magazine. However, when you consider that a completely satisfactory working turntable can set you back at least £70 (Fleischman 6652), consider also that the following minor additions to the Airfix kit cost me about 70p, sheer economics make the following method worth showing your bank manager – or even your wife – if you have one!

First, build up the kit (and paint if required) exactly as indicated on the plans included in the box – except that the four operating handles at the ends of the bridge are reversed (to clear the inlet and exit tracks) and the vacuum pump hose is moved a little so as not to obstruct the circular action of the turntable.

Second, take a standard double-length Airfix straight track (or similar Setrack section) and, carefully, cut off the last two sleepers at each end using a fine saw or craft knife. Now, using a new 3/32 inch twist drill, very carefully enlarge the existing pin holes at the extremities and in the middle of the track so that ⅜ inch screws (8 BA) may pass through. Having *carefully* (the most important word in the hobby) centred the track on the turntable bridge, drill through the deck using the holes in the track as a guide, clean up the holes if required, and bolt the track in position on the bridge with exactly equal lengths of rail overlapping the ends.

If you want to add extra realism you can glue scrap plastic sheet either side of the rails and (allowing a little clearance for the flanges of locomotive wheels) between them. The complete turntable may now be pinned or screwed to your baseboard if you are lucky enough to have one, or to a suitable piece of lightly framed insulation board (ideally ½ inch Sundeala may be so used without any framing except around the edges and flush with the surface).

The next stage is quite simple if you can use, and own, a soldering iron – if not, ask at your nearest model shop that undertakes repairs on the premises. For this, you need two flexible contact strips – one at each end of the bridge – and these can be phosphor-bronze strip of which there is plenty for one turntable in a packet of Peco uncoupling ramps. The discarded ramp may be used as an occupation crossing for barrows, etc. I used some contacts from an extinct racing car system bought for a penny each from an ironmonger that used to sell toys as well as tools.

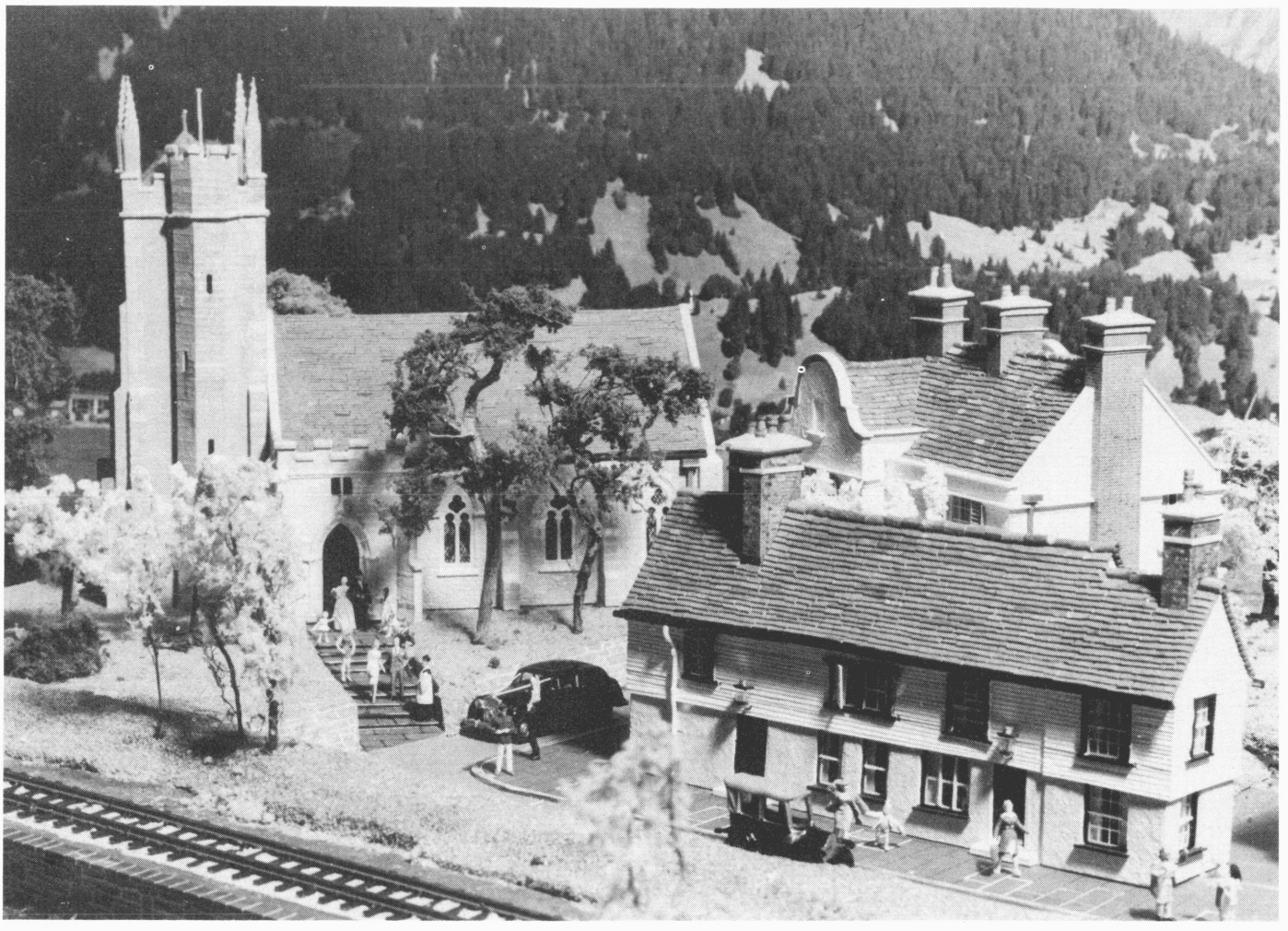
You shape the strip into a 'U' after drilling a 3/32 inch hole in it at one end and, undoing the bolts at the ends of the bridge, insert one contact at each end so that they rub along the baseboard easily without lifting. Before replacing the nuts and washers, solder to one washer (or to an 8 or 6 BA solder tag) a short length of thin wire. Half a fishplate goes at the other end and this is slid along the rail. Two of these connecting wires carry the positive and negative current from the contact strips at each end of the bridge to the rails upon its deck. You may be skilful enough to solder a contact strip directly to the fishplate without impairing the flexibility of the phosphor bronze but I preferred to use the method described.

Very little now remains to be done. Drill two 3/32 inch holes, very accurately, in the baseboard so that when the turntable bridge is exactly in line with the entry and exit tracks (a mechanism in the kit already ensures positive locking) the contact strips wipe the heads of the two 8 BA *countersunk* screws in the baseboard surface, passing through the two holes mentioned. Underneath, two solder tags carry the current to the positive and negative sides of the inlet track. Extra wires should be led to the exit track if you intend a locomotive to stand here. Don't forget to pass one of them through a switch if you want to store more than one engine!

Although my own turntable has the service tracks leading *up* on to the deck, you could, if you are handy with a keyhole saw and have a permanent baseboard, arrange to sink the turntable by ¼ inch so that all the tracks are level. Whichever arrangement you opt for, either method produces a reliable and *cheap* turntable – so necessary with tender locomotives. One small but important aid to reliability, especially with heavy diecast locomotives like Wrenn and Hornby-Dublo, is to extend the bases of the service tracks underneath the ends of the bridge rails and screw fine round-headed bolts or screws through the holes in the 'chairs' to take the weight and prevent disconnection of the current supply and/or excessive tipping of the turntable bridge. Such screws can have the rail ends soldered to them to facilitate the provision of power supply to the bridge but if you want to keep soldering to a minimum, by all means use the standard power clips and ready-made wires with pins at one end and 'holes' at the other.

For those of you with Meccano sets who want to make the turntable revolve without touching it, a useful tip is to buy a wander socket (from a radio shop) as this will easily adapt to a Meccano axle when the tag is removed and the other end is threaded for insertion into a suitable hole drilled in the exact centre of the bridge – and you get a locking nut supplied with the socket!

St Just Vicarage



Maurice Bradley's layout of a typical village scene. Note the marvellous detail of the roofing on the houses adjacent to the church.

Maurice Bradley draws and describes a model building project.

It was the Emperor Kai Lung, may Allah burnish his memory, who remarked that the perfect symmetry of the Imperial gardens was given point and emphasis by the happy accidents of nature, that the planned and unplanned, improved the beauty of both.

With one or two notable exceptions, the charm and variety of the English village happened much more by accident than design and this unassuming harmony can be quite elusive to capture in model form. One of the most attractive styles to study is that of the Georgian period. Especially in the domestic field, the scale was small and human, the individual buildings were full of interest and colour and the proportions (based on Classical forms), have seldom been bettered.

The branch line from Porthcurno to St Just having been recently completed, it became necessary to give some attention to the development of the landscape. A start was made with the Church, which building, with the Editor's permission, I will describe in a futue issue. This gave a focal point to the scene and was rapidly followed by a variety of domestic structures, foremost amongst which was the Vicarage, the subject of this article. The house is based on a prototype in Topsham, a village on the Exe Estuary and is a structure of some antiquity, originally mediaeval, but modified with a Dutch gable (reflecting the trading links with the Continent), with Georgian fenestration and as a final embellishment, a Regency bow window.

The parapet construction simplifies the modelling of the house and as a first attempt at scratch building, it could hardly be bettered.

A start is made as usual by tracing the windows in Humbrol flat white on to 10 thou. Plastiglaze and setting aside to dry. An extended elevation is provided for the bow window. The various elevations are then traced on to 40 thou styrene sheet and carefully cut to shape, special care being taken with the curves of the Dutch gable as much of the character of the design depends upon this.

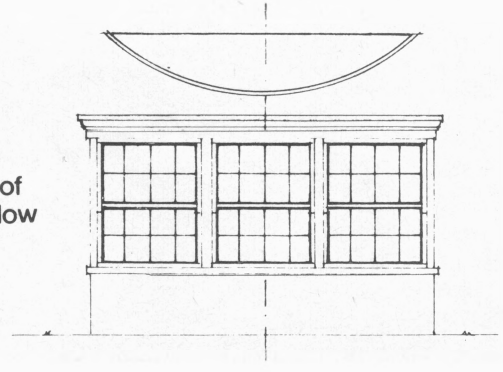
Before attaching the various facades, one to the other to form the body of the building, it will be found advisable to complete as much detail as possible while the elevations are flat on the work board. This includes of course, the various mouldings to the heads and cills of the first floor windows and the mouldings running across the head of the ground floor bow window connecting it to the entrance porch and running around the gable. The mouldings are most conveniently built up with Microstrip, the production of which has very much speeded up this sort of work.

The shutters which are of the horizontal sliding type are cut from 20 thou. Plastikard and the louvres are formed in Microstrip which are later framed in the same material. The shutters are then cemented to the face of the wall and positioned with little distance pieces of 20 thou material to hold them clear of the stucco later applied.

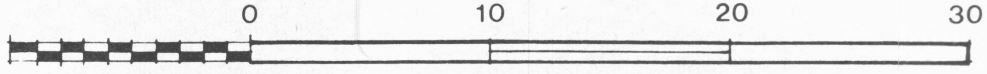
It will be noted that the entrance door is recessed in a small porch which is most conveniently formed as a unit, complete with the door, before being cemented in position. There is also a blind window in the centre of the gable which is probably a relic of the 'Window Tax' of unhappy memory.

WEST ELEVATION

SOUTH ELEVATION



Extended elevation of Bow Window

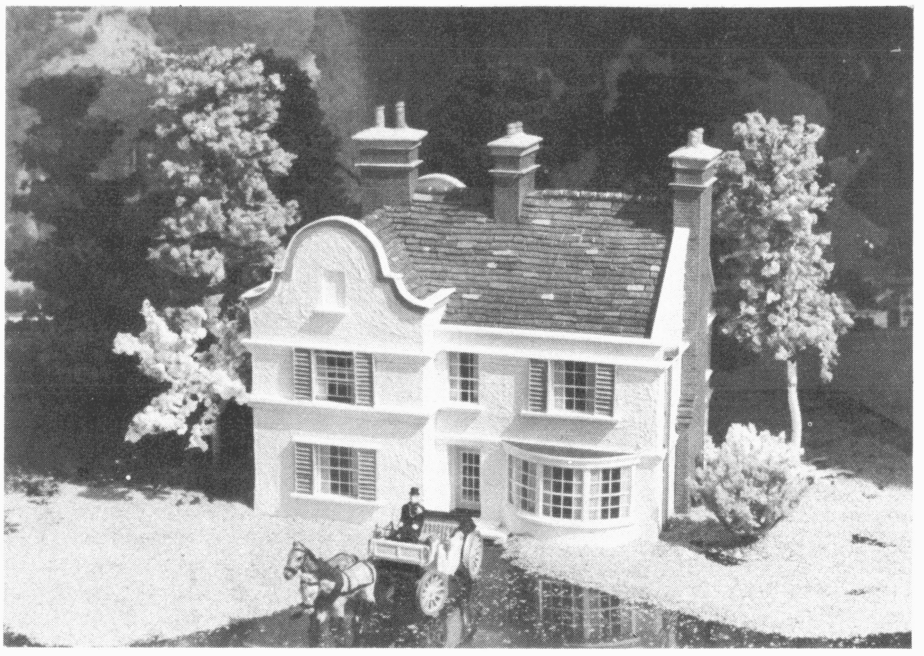


Scale of feet.

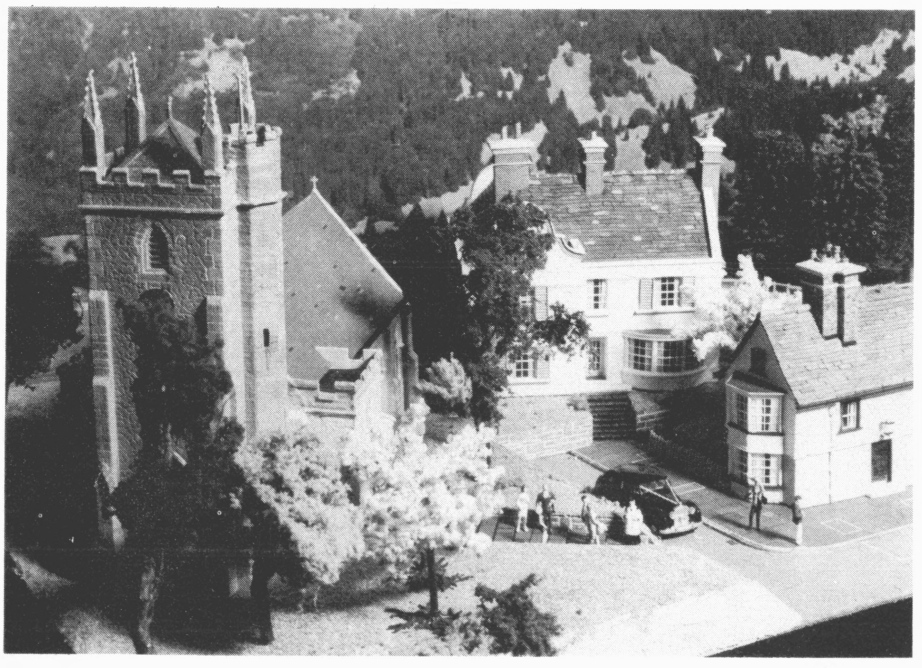
1980.

When as much work as possible has been completed to the facades in the flat, they are then cemented together preferably on a sheet of glass or some other perfectly flat surface, to form the body of the building. The windows are not attached at this stage as the external finish is to be in stucco and we wish to avoid accidentally marking the glazing when applying the external rendering. The copings to the parapets are also omitted at this stage to facilitate the positioning of the roof.

We now come to the interesting part of the operation which includes the application of the stucco. This is a solution formed by dissolving scrap polystyrene in Mekpak until it forms a thin creamy liquid. Fine sieved silver sand is then stirred into the mixture until you finish with a consistency that will just flow easily from the brush. This is then applied to the external surfaces of the model, being careful to keep the solution off the mouldings and finishing cleanly into the window reveals and the entrance porch. You will find that the stucco has a tendency to round over the corners of the window openings and this can be corrected with the modelling knife as the coating hardens. It goes without saying that while the work is proceeding, you should ensure that there is adequate ventilation to the workroom and most important, that you are not smoking as the fumes of the solvent drawn through a burning cigarette can increase the costs of the National Health Service in a most alarming fashion.



A close up of the Vicarage showing off the Regency bow window and the extra detail of the blind window in the centre of the gable. Individual tile effect is worth the extra work.



Entirely scratch-built, the buildings demonstrate what can be achieved by having a careful eye for detail. Note the chimney stacks finished off in brick paper. Wedding scene is a pretty addition.

You may find, as I did, that for a really satisfactory finish, a second coat is required which should not be applied until the first is completely dry. This stucco mixture has many uses and can be manipulated to give a stippled surface, or a heavily trowelled Spanish type rendering. It is also extremely effective when brushed over moulded stone or brickwork in commercial kits, quite disguising their plastic origin.

The chimney stacks are now required and these are fabricated from square balsa covered in turn with 20 thou styrene sheet and finally an appropriate brick paper. You will nearly always find that the stacks of a stuccoed house are in exposed brickwork, primarily due to the fact that the heat of the flue gases causes cement rendering to fall away in a very short time.

The stacks are capped with 30 thou styrene drilled to receive the pots and the mouldings are built up in the usual way, the pots being finally set in position and flaunched around with modelling clay.

The chimneys are fixed in position before the roof is formed and are firmly glued to a sheet of 40 thou styrene, cut to the plan form of the building and set down within the walls at the level of the upper mouldings, approximately ceiling level at first floor.

The roof slopes are cut from 30 thou sheet faced with graph paper to regularise the later tiling and placed under pressure overnight to ensure that the sheets dry with no distortion.

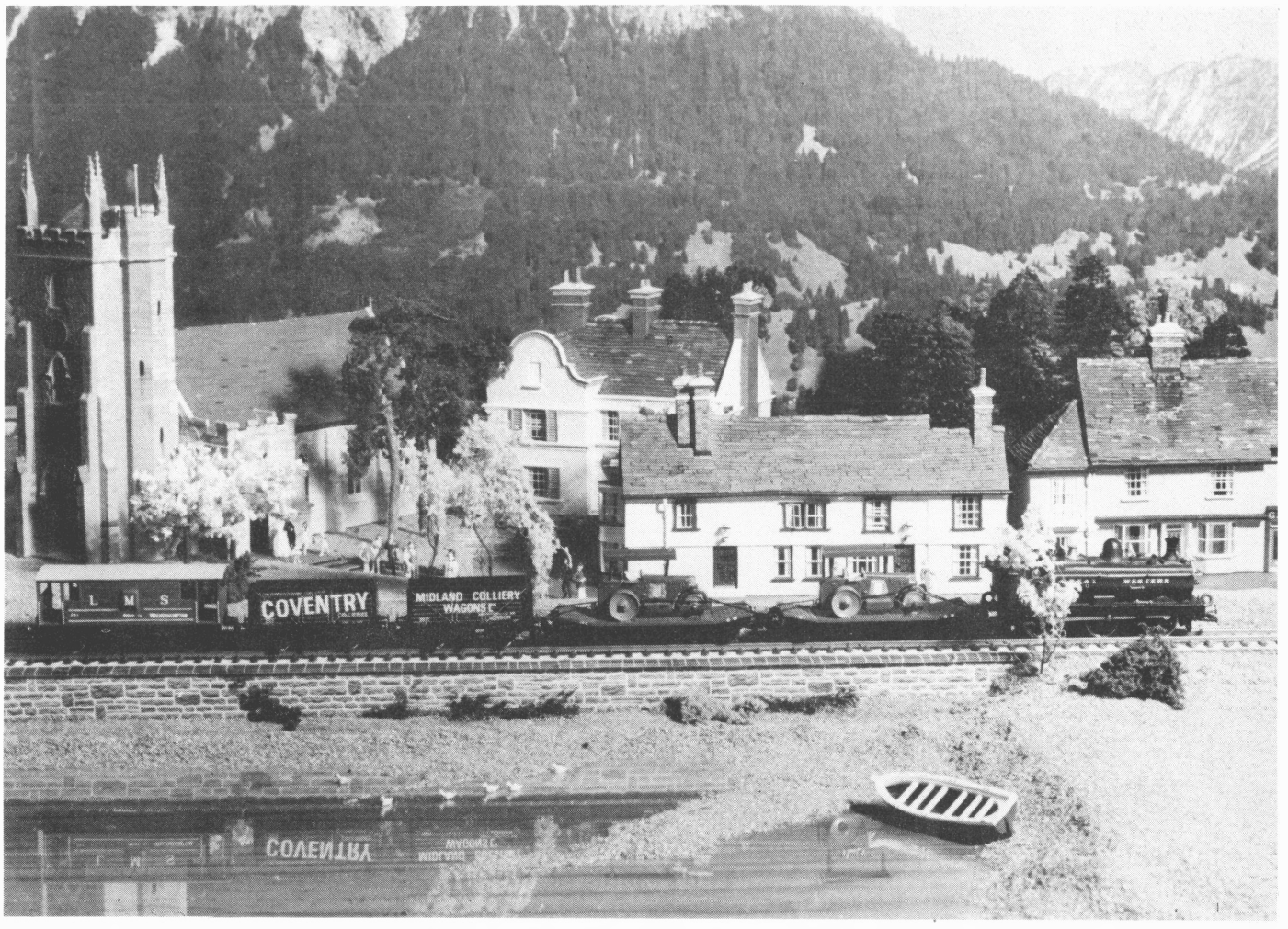
The remainder of the work requires little further clarification. The tiles are separately applied with a knife point and set in position utilising Resin W white glue. It should be noted incidentally that this adhesive will not attach card tiles directly to styrene sheet so do not be tempted to omit the graph paper in the interests of speed. It is necessary, not only to ensure that the tiles are laid regularly and to course, but also to provide sufficient key for the water based adhesive. The tiling is worked around the stacks and also carefully interlaced to the valleys, which I hope is shown in the photographs.

Finally the inner face of the parapet walls is given a brush coat of stucco, the copings then being fitted of 30 thou material with the exception of the curves to the Dutch gable which are made of thinner material formed to shape in hot water.

And that is about all there is to it. The fall pipes are made of plastic rod terminating in a hopper head, a small square of plastic with beading to the upper lip.

The stucco is finished in Humbrol matt white shaded off with a little yellow ochre with a hog hair brush. The shutters I picked out in a leaf green on the model and the roof was finished as Staffordshire tile, in various reds and browns very much dependent on the colours I had available in a collection of part used tins of paint. Incidentally, I should have mentioned the ridge tiles which were of course installed before the painting was commenced. These were made from the insulated sleeve of ordinary domestic wiring. This was carefully slit down using a straight edge and a sharp knife, spread gently open with back of the knife, cut into segments and before it had a chance to resume its former curve, was securely glued with 'Uhu' to the ridges of the roof. I think it makes a very satisfactory finish. The ridge was painted a slightly warmer red than the rest of the roof and the pointing indicated with flicks of white paint in the joints.

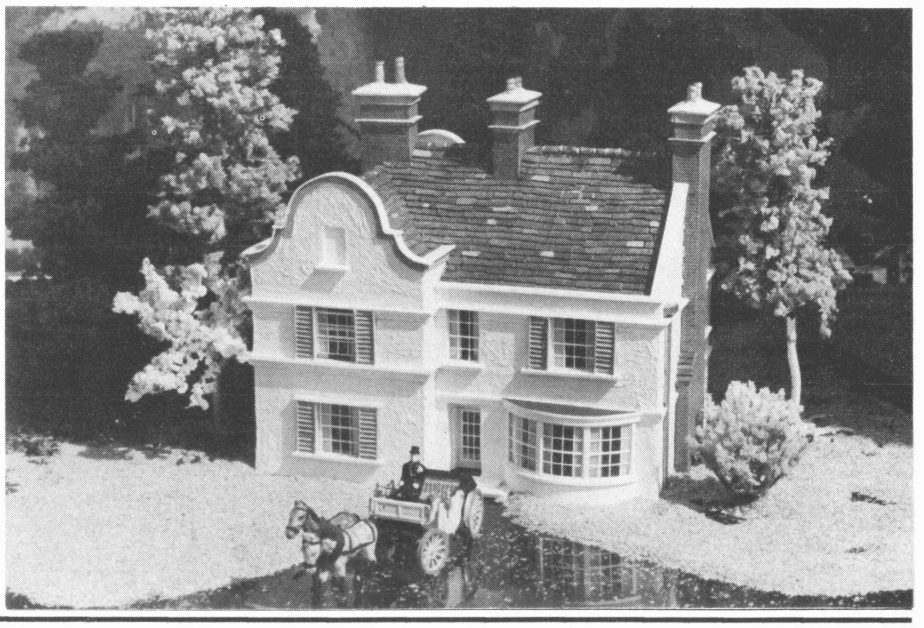
All that remains is to do a little horticultural work to the garden including a tree



or two, attach the entrance steps to the front porch and move in the Incumbent. In the photograph he will be seen leading a wedding party, the Preisers and the Mertens, to the waiting Rolls (or should it be a Mercedes).

Above: *In TT scale, the village is completed by the addition of the river estuary. The reflection in the water of the lettering on the wagons is particularly effective. Backscene is by Faller. This picture should emphasise the fact that you can achieve as much fine detail in TT scale as in OO/HO.*

Photos and drawings by Maurice Bradley



Right: *A sideways look at the Vicarage, with the bushes and trees placed at angles to present a more natural look. The superb stucco effect is worthy of note.*

The Peppercorn Al Pacific

from page 288

flux. Next, an extra stage borrowed from the model soldier hobby, is to prime all metal surfaces to be painted. The primer they use is made by Imrie-Risely and is number 1 metal primer. It is not necessary to use the special thinner as Humbrol cellulose thinners are quite sufficient and cheaper. This primer can be brushed (lightly thinned) or airbrushed (heavily thinned) with equal success. This primer seals the metal and gives the paint a good base to adhere to and prevents paint wearing off.

It is at this point we tell you to paint your model in the required livery. One comment of long term importance must be considered here. You spend from £30 to £50 for your kit which gives you three or four months of pleasure, not to mention a lifetime of useful pleasure. At two or three hours an evening, this works out at somewhere between 8p and 27p per hour of entertainment. Not a bad rate of outlay you will agree. The point of all this is to show that a little outlay on proper tools is a sensible proposition. By correct tools, I speak specifically of an airbrush. There is not yet a hand brush job that can even nearly approach the touch of an airbrush. If you discover, as I am sure you will that you enjoy the kit field and want to invest in further models then those special tools come in very handy and make life a lot easier.

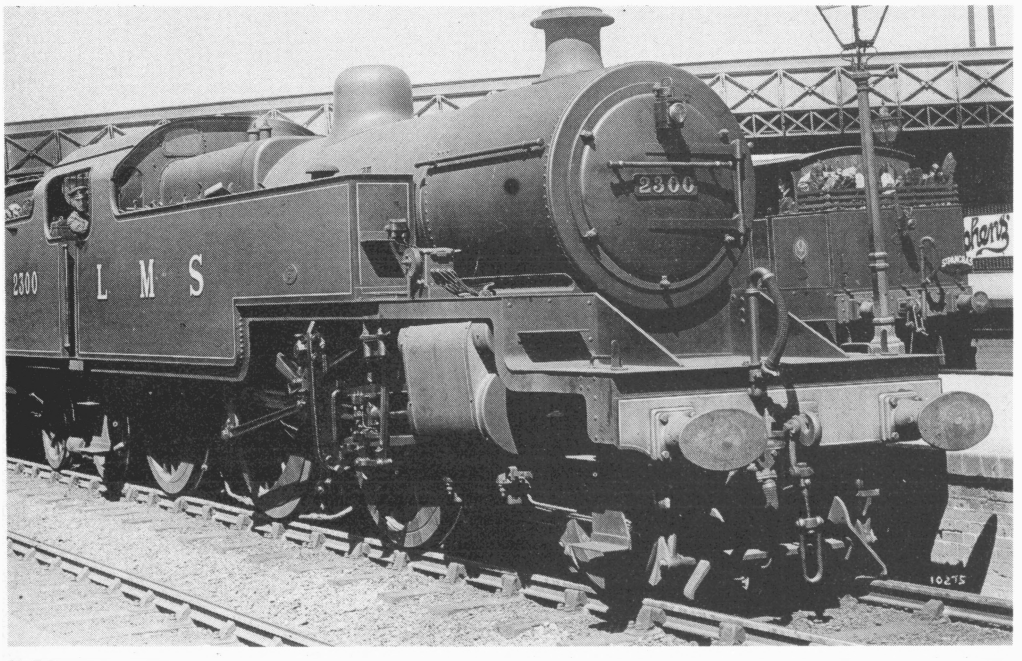
The pictures show my finished model which includes the various modifications and 'wrinkles' outlined here. Verdict: a beautiful kit but not entirely for the faint-hearted.

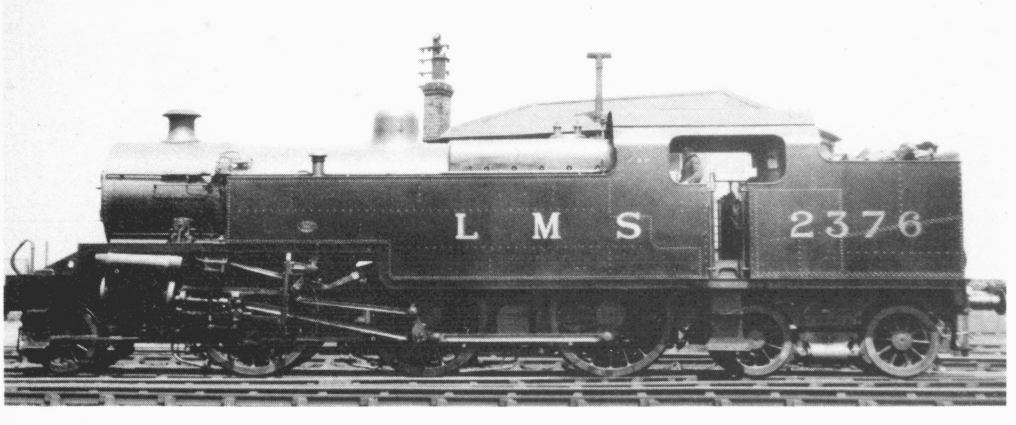
Focus on the Fowler 2-6-4Ts

The handsome Fowler Class 4P 2-6-4T was quite a significant design, for direct derivatives of it were produced and used right up to the end of BR steam, while the LNER built a 2-6-4T class (the L1) which, while not a copy, was clearly inspired by the LMS design. There is some connection with the Horwich Crab in the 4P pedigree, for George Hughes, first CME of the LMS, initiated the idea for a 2-6-4T version of his 2-6-0 design to prove a good powerful tank engine for suburban work to replace the elderly assortment of tank engines the LMS inherited from its constituent companies. By the time Fowler took over and design work was started on a 2-6-4T it was decided that a higher boiler pressure was acceptable, and a wider loading gauge could be used. This obviated the need for the high pitched cylinders of the Crab, but a vestige of the Crab style is seen in the shape of the footplate and front end layout.

The first locomotive of the class, No 2300, was the first to carry what became known as the '1928 style' of LMS livery – number on cab side, and letters LMS on tank or tender side. It was completed in December 1927, in full lined out passenger livery of Crimson Lake. After the 13th or 14th machine black was standardised for the class. The excellent Horny 00 gauge model is a good representation of 2300 as built. When Stanier succeeded Fowler he perpetuated the building programme but introduced a fully enclosed cab with door and side windows. Subsequently he modified the design to take a taper boiler (and three cylinders in one variation); Ivatt repeated the Stanier design with minor changes, and with further slight changes the same basic design became the standard BR version. The actual layout introduced by Fowler stayed virtually unaltered. Even within the original Fowler version, however, there were many modifications and small changes, and the pictures here show what they were. The significant change was the filling in of the cab side openings to reduce draught, and for a later LMS or BR version, should you decide to modify and repaint the Hornby model, this is essential. As with all conversion or repaint work, however, it is advisable to select an actual locomotive and modify your model to suit, following Richard Gardner's article for the actual work involved in any of the detail changes.

LMS number series was 2300-2424, becoming 42300-42424 under BR ownership. From 2395 on, the side window cab was fitted. Building period (in batches) was 1927-1934, and all were scrapped in the 1959-66 period.



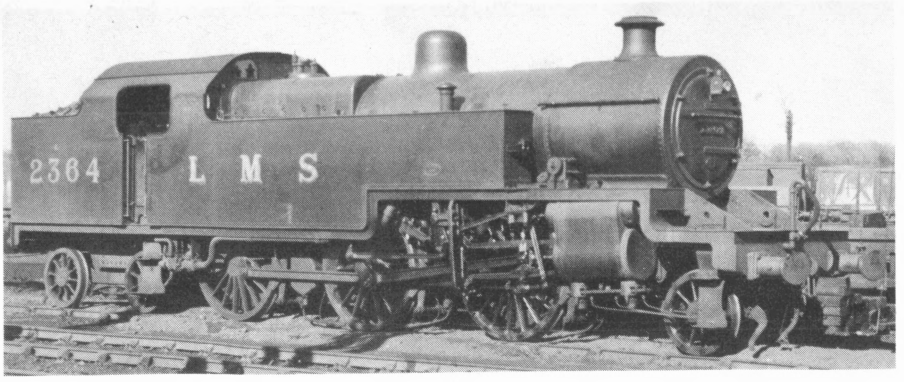


D. Ibbotson presents a pictorial review of details and variants

Above: This fine view shows 42417 on local train duty at Birmingham New Street in 1961. It is one of the final batch with side-window cab, plain side rods, canted air vents, rainstrip on roof. Note deep handrail on bunker rear (A. J. North).

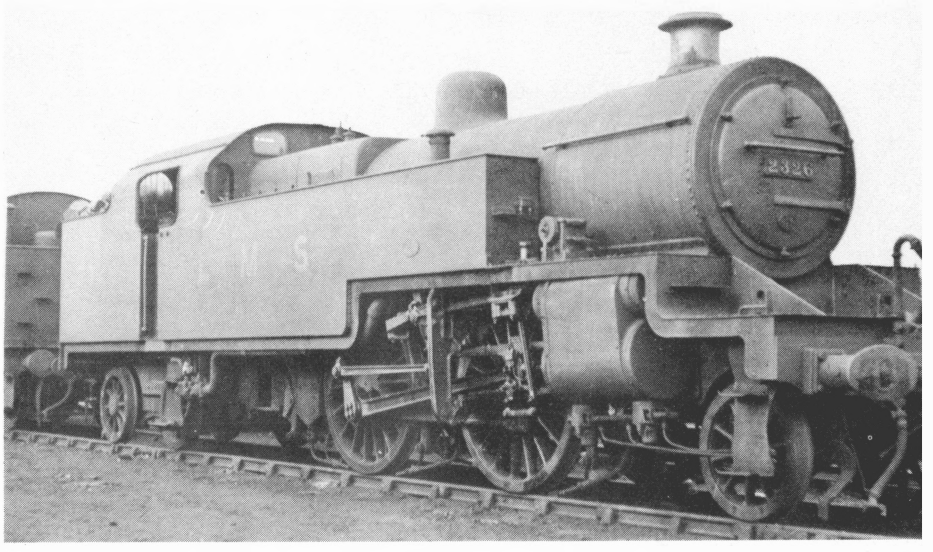
Left: Classic Fred Moore picture snows the first loco, 2300, at St Albans on a commuter run to St Pancras early in 1928. Note short air vent on tank and the non-standard size of the bunker numerals which were possibly hand-painted on this first loco to carry the livery. The 0-6-0T on the next platform has the old livery, with crest on bunker side and numbers on tank side; note St Pancras destination board. No 2300 is already quite dirty as close study of the picture will reveal (F. Moore/Ibbotson Collection).

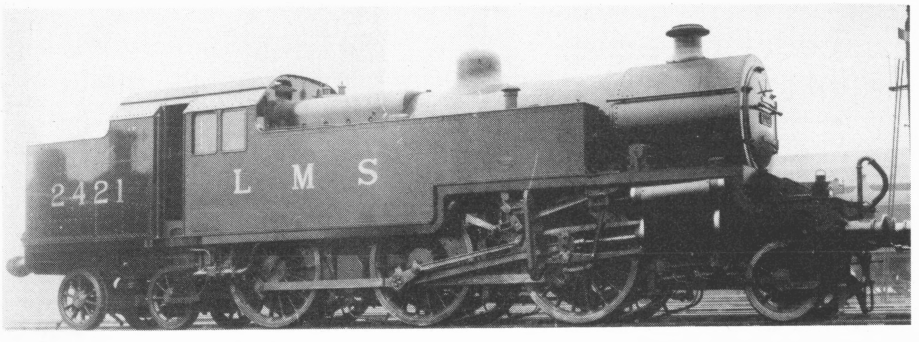
Left: No 2376 shown as newly in service (built 1932), in plain black finish, standard size numerals, taller air vents on tank tops, rivetted side tanks (cf, 2300 above which has smooth tanks), bogie brakes still standard, and lifting holes introduced in front frames. Note power class 4P painted ahead of cab cut-out.



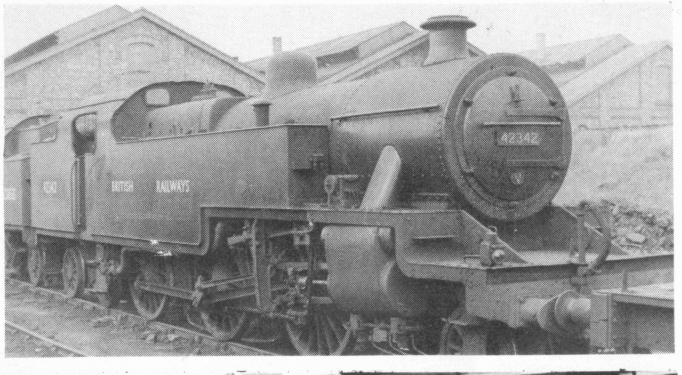
Left: No 2364 is seen at Crewe on April 19, 1936, after overhaul which has seen the removal of the bogie brakes, addition of lifting holes in the front frames, and filling in of the cab side cut-outs – by fitting new panels rather than the addition of plating to the original cab sides (L. Hanson)

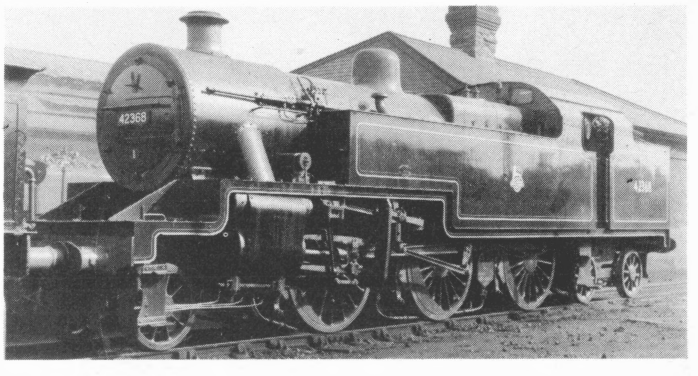
Right: Around 1946, No 2326 was carrying the late sans-serif style of LMS letters and numbers. It has all the other modifications as described above, including bogie brakes removed, cab side fill-in and lifting holes. Rear drivers have been removed for repair. The sand boxes and pipes can be seen very well in this view.

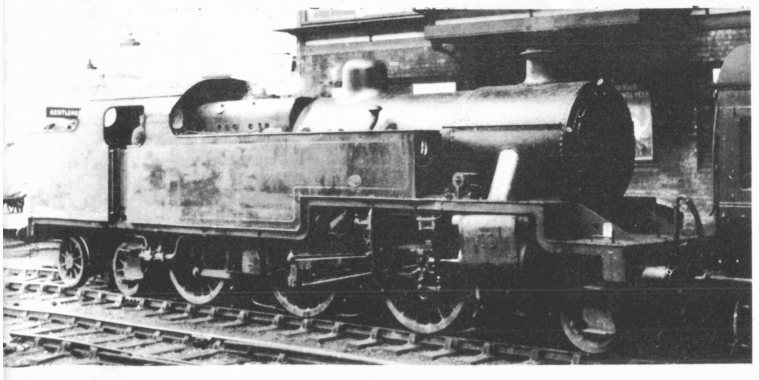




Left: No 2421 was one of the final batch built under the Stanier regime and is here shown new in 1933. Note power class 4P painted very small on cab side behind the door. Side window cab, lack of bogie brakes, tall air vent, and plain side rods are characteristic of this batch. Fowler engines had fluted side rods.

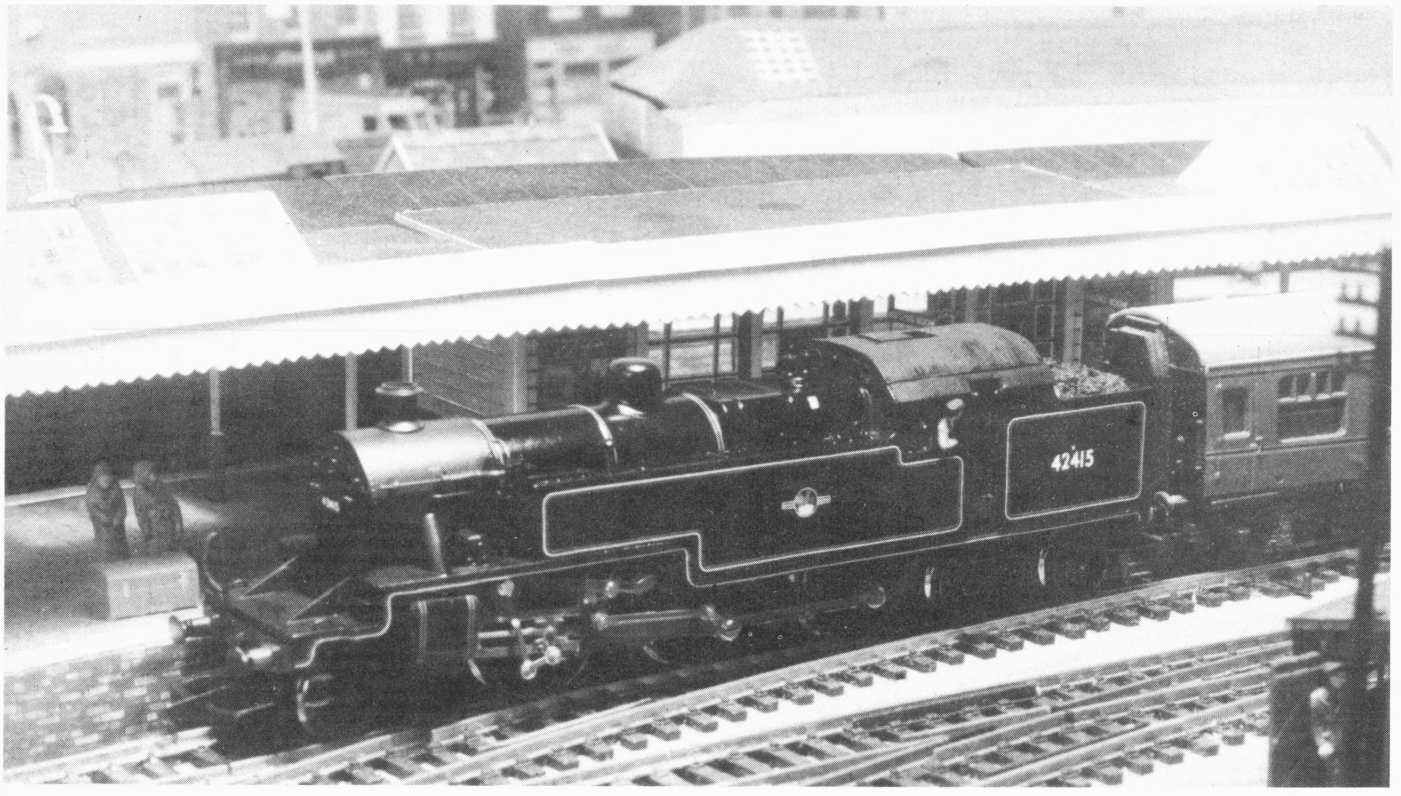






Above, left: No 42342 in 1948 is in original BR style lettering with new smokebox number plate to match. Patches of fresh paint indicate that LMS lettering and numbers were merely painted out for application of BR markings. Outside steam pipes are now fitted. There is a good view of the Fowler chimney shape. **Above, right:** No 42368 in 1950 has lined out BR livery, outside steam pipes, replacement Stanier chimney, cranked air vents (compare chimney shape with No 42342).

Left: In 1961 at Birmingham New Street, 42333 has overhead warning signs, Stanier chimney and side rods (though a Fowler-built engine), outside steam pipes, cranked tall air vents, and a much weathered paint scheme with early BR totem, lining, and bunker numbers almost worn away (A. J. North).



Modelling the Fowler 4P 2-6-4T

Richard Gardner makes drastic changes to the recent Hornby model to incorporate the Stanier modifications applied to the final batch.

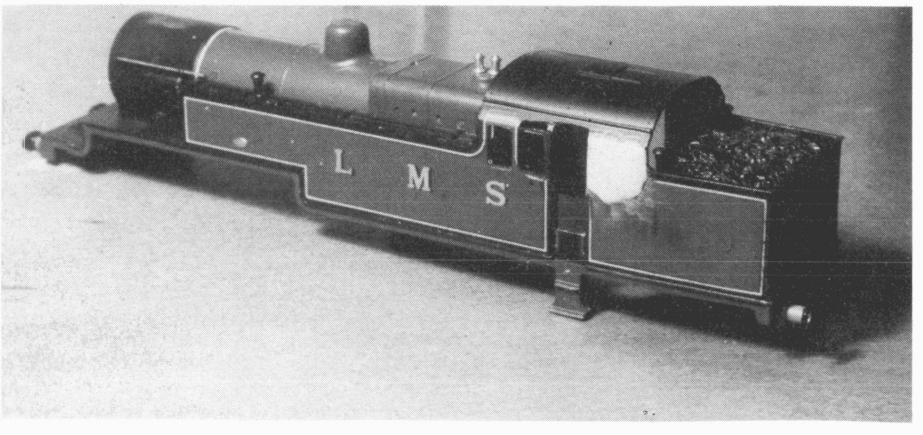
The most recent models from Hornby have been of a far higher standard than was to be expected but a short while ago. The manufacturers have obviously responded positively to the new competition in the ready-to-run market and have found that it is possible to produce accurate models which will still stand up to 'toy train' punishment and will negotiate train-set curves without locking solid.

The Fowler 4P 2-6-4T is one of the best ever models from Hornby. It captures the graceful lines of the original with very crisp detailing, it runs smoothly with a generous load and the paint and lettering finish is to the highest quality. Even the 'sit' of the loco on its chassis looks spot-on with correct buffer height above the rail. This more than anything else sets it apart from most of its Hornby predecessors. With such a beautiful model available straight out of the box it is a great shame to deface it in any way! However as *Model Trains* aims to give readers new ideas and some hints on loco construction and modification — without the need for expensive workshop equipment — we thought that the 4P would be an excellent subject for a fairly complex conversion.

This is a project that should be within the reach of anyone with a little patience and the most basic modelling tools. The lessons learned can be applied to dozens of similar models. The object of the exercise is to improve our modelling standards and to build a locomotive that is different to all the other out-of-the-box engines up and down the country.

The degree to which you want to modify the Hornby version is up to you. If the Stanier variants are off-putting you could stick to the open cab version or just repaint the loco in LMS black. If modelling the BR period you will need to ensure that the details are correct for your chosen example. The photographs from D. Ibbotson's collection on previous pages show very well just how many variations there were within the class and over their lifetime in service. It is most important to note that any loco in the BR period would have the new chimney and outside steam pipes. Even the locos retaining open cabs had the rear cutaway section partly filled in to give more crew protection from the weather.

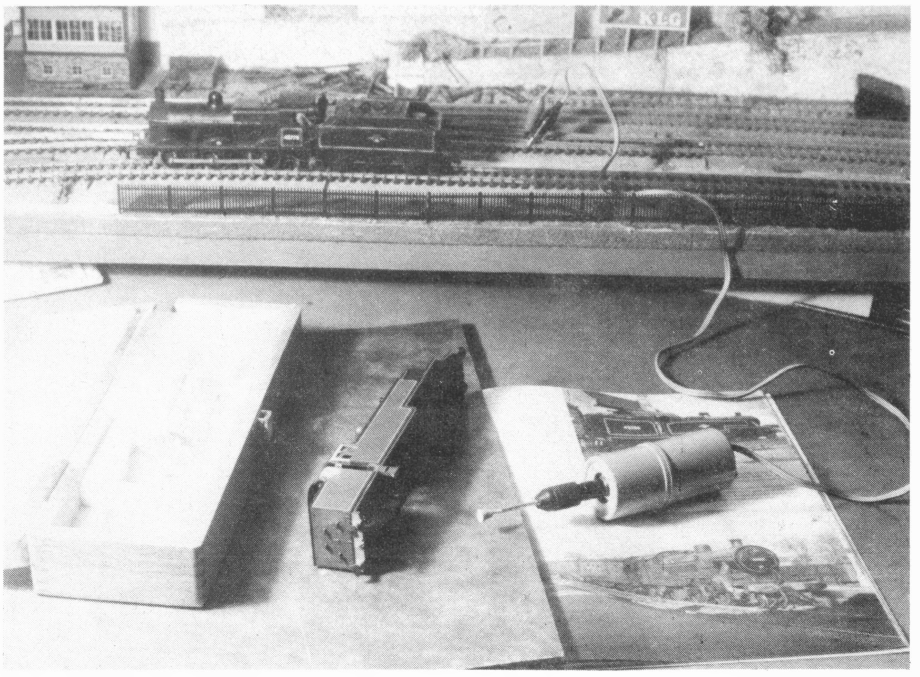
The loco used in this conversion was the test model reviewed in the January 1981 issue of *Model Trains* and our original intention was to describe a simple BR update for those basing their layouts on the era where steam and diesel locos can operate together. With any conversion it is essential to gather together as much background material as possible before you start to work. While doing just this it became



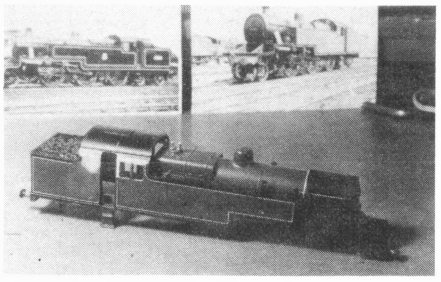
Heading: *42415 arrives at Linfield Junction with a local from Shewsbury.*

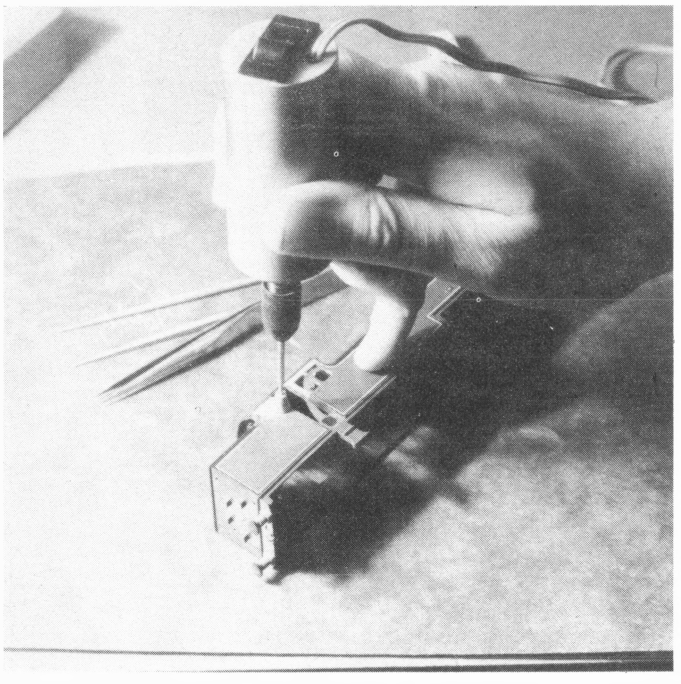
Above: *(A) Modifying the cab as shown in Fig 2.*

Right: *(C) Shows method of powering a small 12V Expo mini-drill off a track on the layout.*



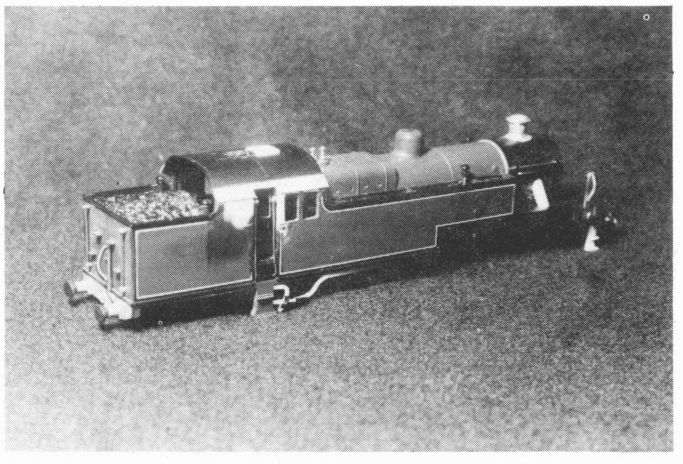
Below: *(B) Rebuilding the area behind the cab entrance which has been sheeted in and window openings cut out as shown in Fig 3. Note the lettering has been removed so it does not show when the model is painted.*

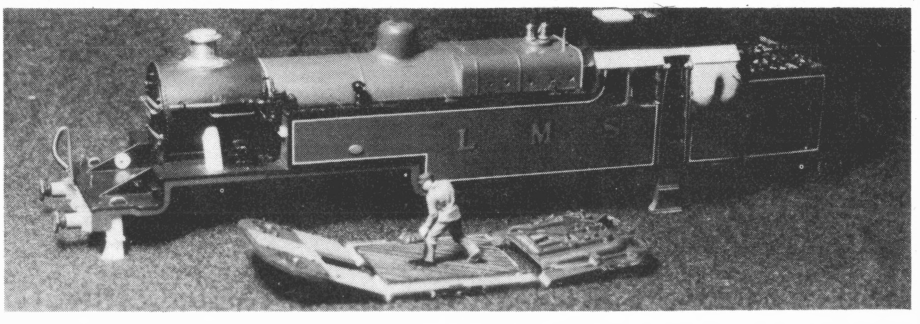




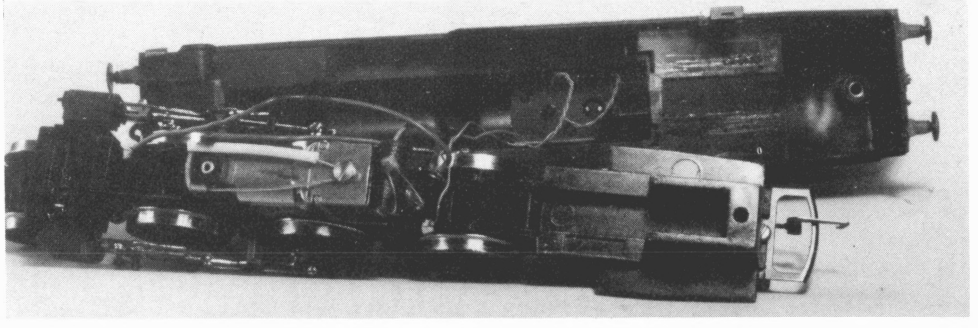
Left: *(D) This shows how to smooth down the hardened Milliput filler by using the flat end of an abrasive bit.*

Below: *(E) The model has now had its new cab additions put in place including the wire hand rails.*



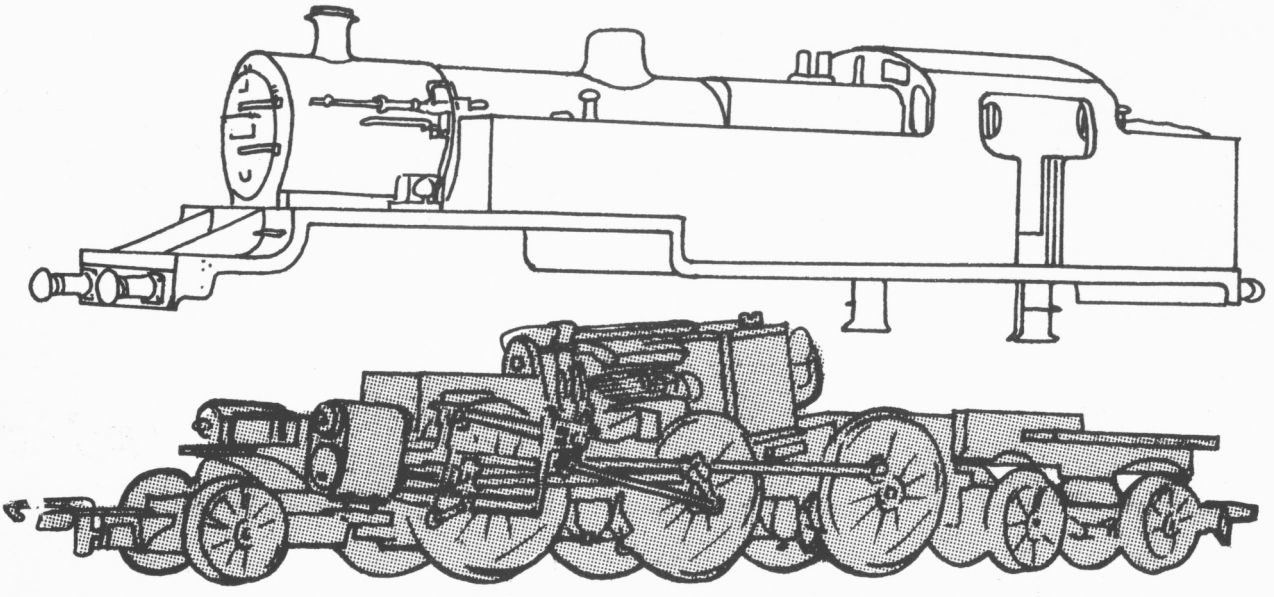


Left: *(F) The whole of the cab interior has been moulded in one piece of transparent plastic with the visible parts painted grey or maroon. Note the realistic-looking crew member.*



Right: *(G) Model with firebox in position. Note wire soldered to the right hand wheel pick-up.*

FOWLER-STANIER 2-6-4T



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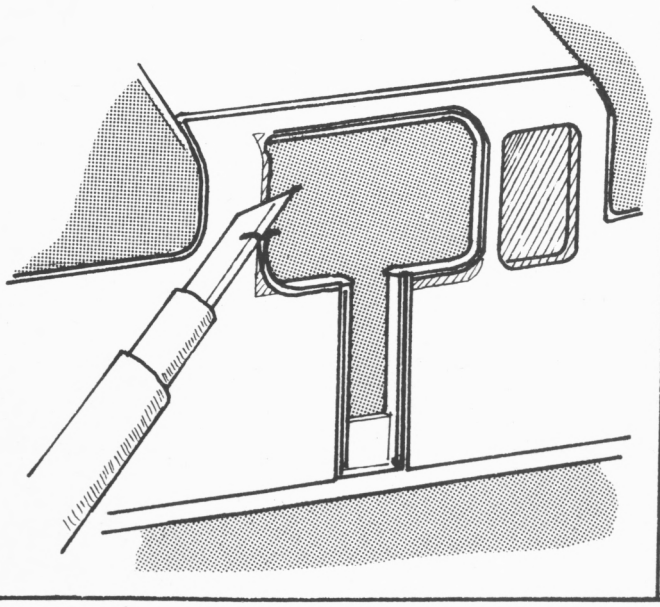

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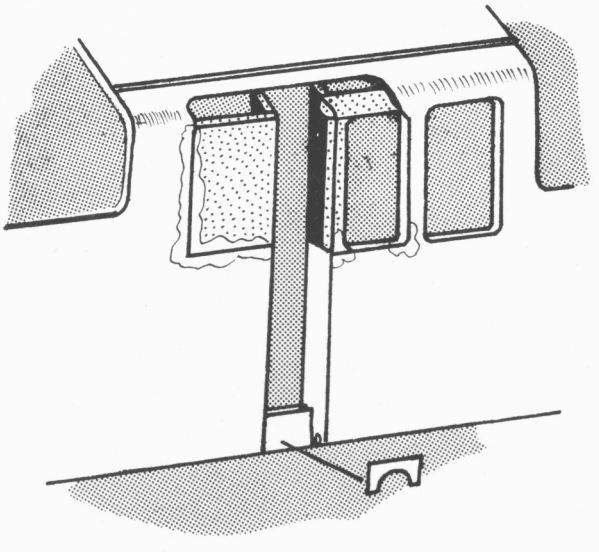

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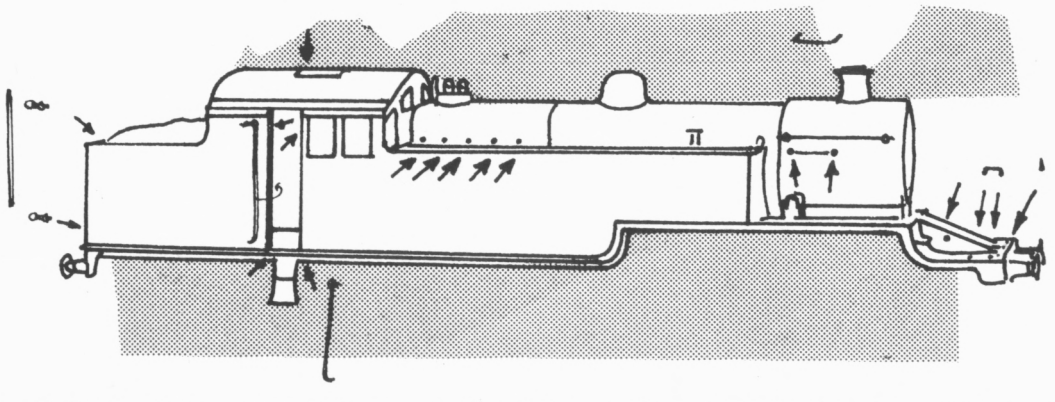

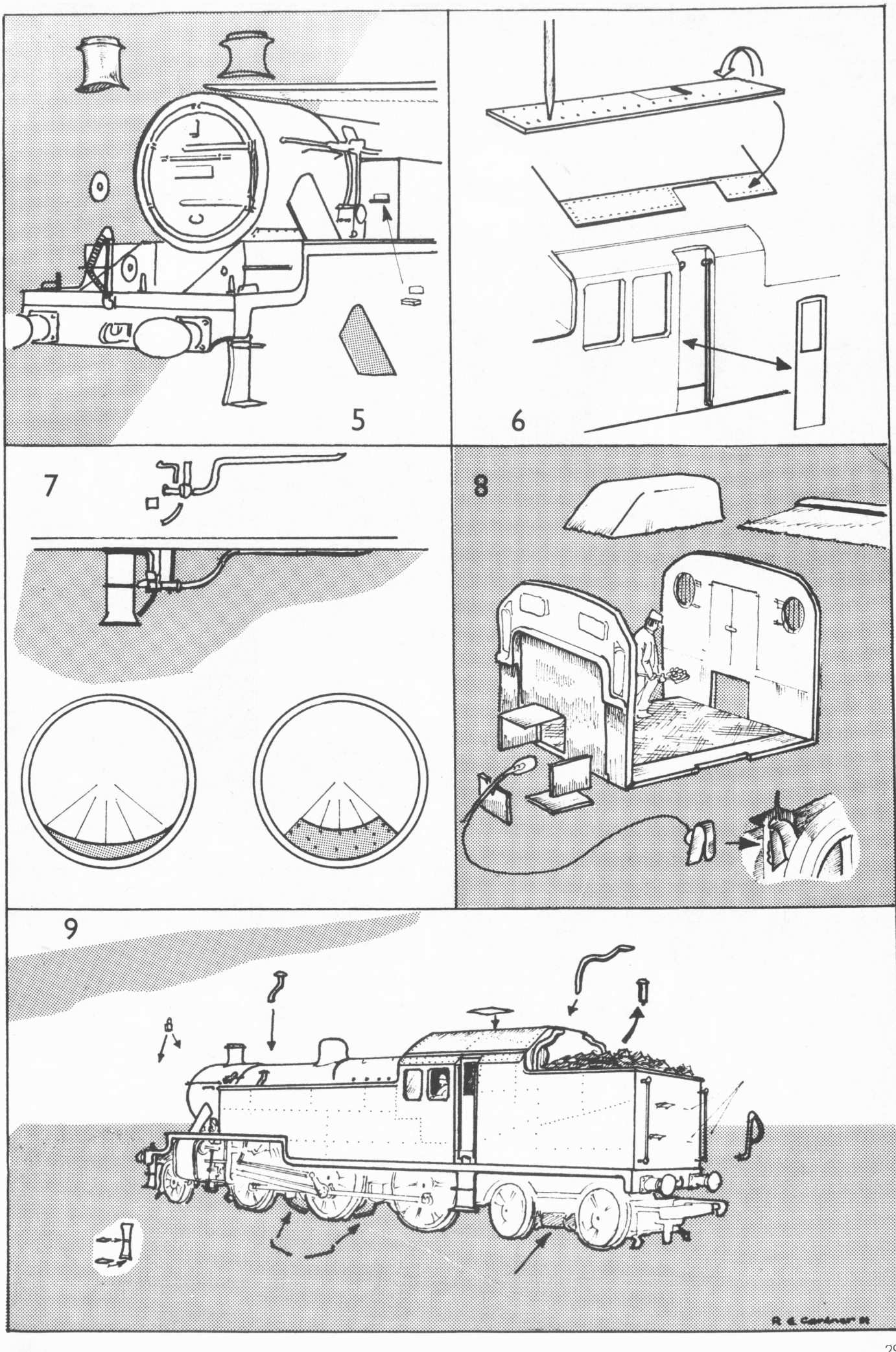
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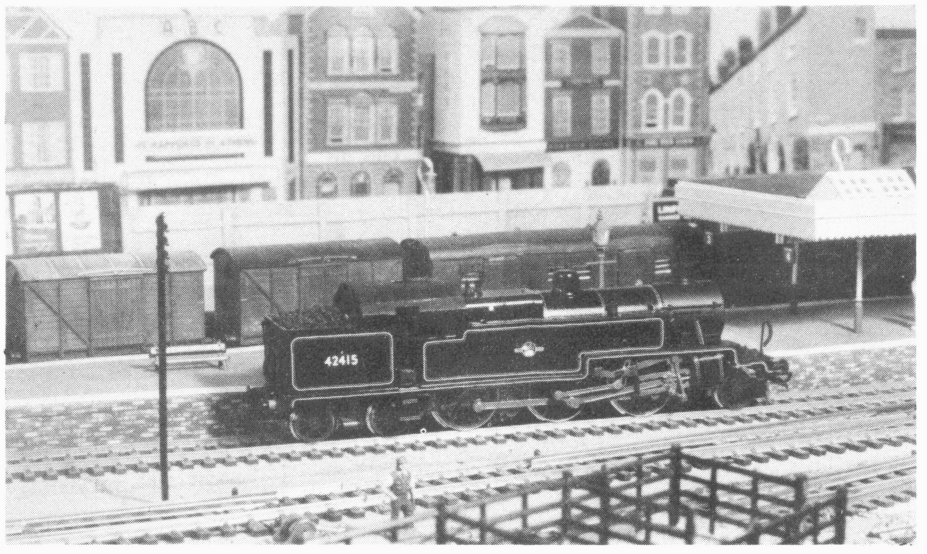
apparent that there was going to be a great deal more effort required beyond a mere re-paint. In fact almost every small detail on a late-model 4P tank differs from the early locomotives. On the basis that it was going to be a major job whichever BR loco I chose, I decided to go for a machine with the new enclosed Stanier cab. Although this variant lacks, in my opinion, the grace of the open cab locos, the difference is more noticeable and one therefore should derive more satisfaction from the end result.



Above: *Simmering at the end of Linfield's platform 4 before taking over on a parcels train. The realistic 'sit' of the locomotive is worth noting.*

The Conversion

To make it obvious how the Hornby model can be altered the following description is keyed to the drawings and photographs in the order in which the model was rebuilt.

(1) The body is held on to the chassis by a screw fitted under the coal bunker, and the loco will need to be dismantled to carry out the work. It is useful to keep a small box handy in which to place the separate detail mouldings. They will be refitted after the major surgery. Failure to strip the body will add to the painting difficulties and could result in damage as the shell is subjected to much handling.

The cab interior slots out of the body shell if the plastic clips by the cab footsteps are gently eased with a small screwdriver. All moulded plastic representing handrails should be cut away and the area rubbed smooth with fine grain 'wet and dry' paper.

(2) The most difficult task in this conversion is the re-building of the cab. The enclosed Stanier cab is of a completely different shape to that designed by Fowler, but it is possible to modify the model without having to cut off the cab area. By modifying the existing moulding the strength of the body is retained and there are no problems with re-fitting the interior or the roof. On a Stanier cab the area behind the cab entrance is sheeted in, with a recessed door and two glazed windows forward of this. First of all cut away the beading around the door openings and file flat. Then file out the rear opening until the corners are square. Cut away the areas shown as shaded in Fig 2. The front cab side-window was drilled in the corners and then opened up with needle files. Go carefully here as any slip-ups will necessitate time consuming work to get back to the correct shape. The new window outline can be drawn in pencil from drawings or photos to act as a guide before you actually drill the corner holes. An electric mini-drill will come in handy as you can hold the model with one hand and the drill in the other getting quick, accurate holes just where you want them.

Next cut away the moulded plastic door handrails and file clean the new wider open-

Above: *This 1960 picture clearly shows the Stanier chimney, outside steam pipes and rivetted side tanks. Note also the later BR livery.*

ing. The model will now look a bit of a mess so have a cold lager while the blood gets back into the fingers!

(3) Cut a new kickboard/footstep from 20 thou plastic card and cement in place over the bottom of the cab door. Now for the tricky part! After a rectangle of 40 thou plastic card has been placed to fill in the rear opening, cut and fit the sides of the door opening. It is a matter of trial and error but eventually you should get a perfect fit. The forward side will have to fit snugly with the new framework for the second side window. In the drawing the window frames made from 20 thou plastic card are shown with a dot tint and the door sides are solid black. The requirement for getting the first window correct in shape will now be appreciated. If the front window is right then it is relatively easy to build up a matching shape for the rear window. Photo A shows the model with the front window cut out, the frame for the second window in place and a large blob of Milliput filler smeared on the plastic card insert to hide the join. Photograph B shows the next stage with the hard-setting Milliput covering all the gaps. This material is supplied in two chunks of putty-like epoxy. You have only to break off a lump from each piece and then roll them together between the fingers until the colours merge into one. It feels and looks like a drier version of putty and can be worked very conveniently into awkward shapes without any of the mess associated with most other forms of epoxy filler. (Other fillers such as Isopon or Outdoor Polyfilla can be used to fill gaps on models but they can be expensive and ghastly to work with). With this particular model I left the filler for 24 hours before attempting to file it down, even though it looked rock solid in the morning after 10 hours.

Photo C shows my method of powering a small 12 Volt Expo mini-drill (from W & H Models) off a convenient track on the lay-out. As the work table is immediately below a non-complex section of my layout I have a handy test track as well as power supply within reach at all times. A couple of croco-dile clips feed the power. The wooden box contains all the drill accessories and is foam lined to hold the drill safely when it is being stored in the Mothercare toolbox!

Photo D shows the flat end of the abrasive bit being used to smooth down the hardened Milliput filler. The deep round shape of this tool will enable you to get into corners to smooth away unwanted material. Final smoothing out of the cab area was achieved by the use of 'wet and dry' fine sandpaper. (Even with a mini-drill it is advisable to wear a mask to avoid breathing in filler dust).

(4) It is at this stage that the value of a mini-drill comes home. The next task is to drill out holes for all the hand rail knobs as indicated in the drawing. The roof hatch is

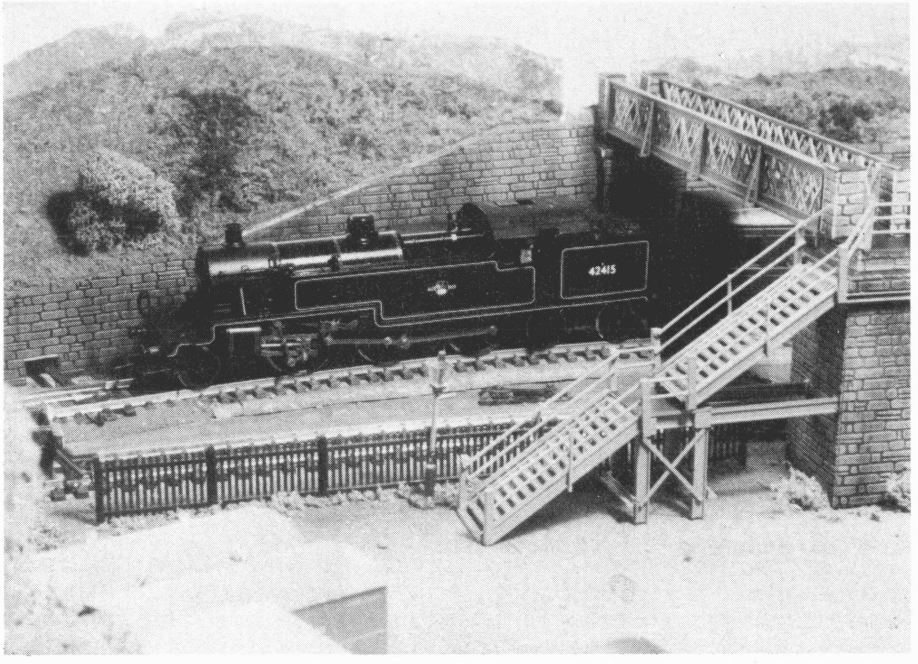
opened up in a similar way to the side windows. Handrails are from brass wire held in place by turned brass knobs. Smaller knobless rails are bent up from the wire and pushed into the holes which contain a small amount of Araldite. Five Minute Epoxy is useful for these tasks. A lifting hole is needed in the frame extensions at the front. Hornby omitted the boiler wash-out plugs from the firebox sides so these can be drilled out after suitably marking with a pencil. If you have no mini-drill, by the way, you can still get all these holes drilled out by using a hot pin (heated over a gas burner) held in pliers, but a steady hand is needed. This has been demonstrated in previous articles.

roof. The rain strip on the Hornby roof is a convenient top edge for the new piece. Note that the roof edge should overhang the side.

A cab door can be made from 30 thou plastic sheet and cemented to the inside of the door opening, taking care to leave room for the interior floor clip.

Photo E shows the model with new cab additions plus wire hand rails in place. The outside steam pipes, new chimney, footsteps and open roof hatch are shown to advantage in the unpainted stage. New 'riveted' tank and bunker sides could be added from plastic card with the new roof section if you want this.

(7) The injector below the right hand cab is very prominent on the real locomotive



Above: *Fowler-Stanier 2-6-4T leaves Linfield Junction to take the single-track main line to the south.*

(5) The early chimney can be cut away with a hacksaw and the saddle area filed smooth ready to take the replacement Stanier type. Specialist firms such as W & H or Kings Cross Models should normally carry either white metal castings or turned brass chimneys. The example used here was turned brass and was affixed with a blob of Milliput. Strengthening discs for the front lifting holes in the frames can be made from thin plastic card and cemented on the inside of each frame extension. Plastic card footsteps are added to the front of the side tanks. The outside steam pipes were cut from spare plastic sprue of the correct diameter and filed until they were the correct shape to fit between the smokebox and the footplate. Constant reference to photos and drawings is needed to get it right. Ensure that the pipes line up with cylinders and chimney.

Front foot steps need to be added from 20 thou plastic card. These will always be vulnerable so brass could be used if the model is to receive much handling in everyday use.

(6) New cab roof extensions can be fabricated from 20 thou plastic card. Rivets should be simulated by pushing a sharp pointed instrument into the reverse side before cementing to the filed down cab and, as the location in no way interferes with the chassis, additions from plastic rod and bits of plastic card are built up as in the drawing. Photo E shows the detail before painting. The Stanier conversions (the later batch of Fowler engines — they were never actually converted from open cab locos) had larger wheel balance weights fitted. These can be added from plastic card as shown in the drawing on the right.

(8) The whole of the cab interior is moulded in one piece of transparent plastic with the visible parts painted grey or maroon. The first thing to be done is to remove the central hump for the command module (unless, of course, you fit Zero-1). A new suitably scribed floor can be fitted together with the crew members. I have found the recent Airfix railway workers figures ideal as they are highly detailed unlike many so-called driving crew figures which seem more like disco dancers or tailor's dummies than human beings! Careful painting and positioning will reap visual rewards (see photo F). With this model I indulged in an 'extra' feature which would in fact look better in the open cab version. I refer to the provision of a simulated glowing firebox. The drawing shows all the constructional details. I simply built a small plastic box behind the firebox backhead and wired in a red grain-of-wheat bulb. If you try out this idea then be sure to leave sufficient space around the bulb to prevent it becoming too hot. As I don't as a rule 'tail chase' for more than a few minutes when operating my own layout this is not a problem.

A new pick-up is needed on the rear left driving wheel. This is from bent copper strip and rubs on the plated rear of the wheel. The other wire is soldered to the right hand wheel pick-up (see photo G). A glowing firebox may sound like a gimmick but it does look most realistic. The bulb is actually inside the firebox and if a small piece of silver foil is placed around it not only will the heat be kept in but the resulting glow in the cab lights up the crew and reflects through the windows. Where there is space in the loco it is well worth adding as it seems to give life to the machine. Add a smoke unit and electronic steam sound and you would have a real knockout of a model! Needless to say these various 'extras' are entirely optional. Ignore them if you don't feel like the additional work.

While the cab is separated from the body it is easy to repaint the front window area to incorporate the later triangular lookouts in place of the early round-topped lights. The finishing touch is to paint in the cab details in black, white, copper, brass and red. When new the cabs had cream walls but I can only ever remember them being black in BR days.

(9) The last stage in the conversion is the detailing of the body. Lamp irons can be added from flattened brass railing and headlamps can be placed in the appropriate positions. For the local passenger trains most usually hauled by the class the lamp should be carried on the top of the smokebox door.

The tank-top vents were curved on the later versions so new pipes can be made from heat-stretched sprue with the top 'disc' cut from the Hornby vent.

The skylight can be replaced by a separate piece of plastic card to represent an open hatch — this gives more light to show off the interior and enables the glowing firebox to be seen from above.

The small vents fitted to the coal bunker should be removed. New pipes running from the roof down through the bunker are made from plastic rod. Bend them to run around the rear spectacles without fouling the view. New vacuum pipes (metal ones) are fitted into the holes already provided in the buffer beams.

Small holes can be drilled in the base of the sand boxes to accept wire sand pipes (which are not provided by Hornby). Again these pipes are cut from short lengths of brass hand rail section bent to shape. A drop of Araldite or Superglue will keep them in place. Photographs show that many locos had the bunker steps and handrail removed on the right hand side. Check this and other matters of detail with the actual loco you choose to model — and ideally choose it before you begin!

The bogie brakes can be filed away as they were not fitted to later production

engines. All that remains is to add cab windows.

After the refitting of the cab interior we are in a position to undertake the final painting and finishing. Humbrol's Maskol masking fluid can be used in conjunction with clear tape to cover all transparent areas, or alternatively you can keep the cab interior out of the body and fit this and the side windows later.

Painting and finishing

This is the stage that will make or mar all your efforts so it is as well to take a little time and not rush into things. An easy way out would be to paint the engine in matt black overall with suitable weathering and filthing-up to render lining unnecessary. But after such a lot of work I thought that just for a change I would finish my own loco in an almost ex-works condition. Photographic evidence would suggest that this class was kept in cleaner condition than many others. This is probably a reflection of the fact that it was mostly used on passenger work.

The smokebox, footplate and roof areas were usually duller than the boiler and side tanks, but just occasionally you will see an example with polished smokebox and dirty sides and top! I sprayed the entire model with three very light coats of Humbrol matt black from their aerosol range. This produced a superb matt finish with just a hint of sheen to highlight the contours and details. Next (a day or two later) I masked off the ends and roof, then gave the body two light coats of Testor's gloss varnish, again from an aerosol can.

After leaving the loco for another 24 hours I was able to start on the intricate lining. There are now several firms producing BR lining. After trying all of them I have found that the Kemco waterslide transfers offer the best results and are easiest to use. They do not have an overlapping varnish top-layer and so look like hand-lining if applied carefully.

Transfers should always be affixed to glossy paint surfaces even if you have to apply a matt varnish afterwards. This way there can be no air trapped in the rough finish that goes with matt paint. Placing the loco on its side I started the tank lining from one corner and then worked around the edges using only short strips of transfer. If you keep the strips too long it will be difficult to get a dead straight line. The actual transfer should be kept on the backing sheet right up to the last minute or you may get it wanting to curl around the tweezers.

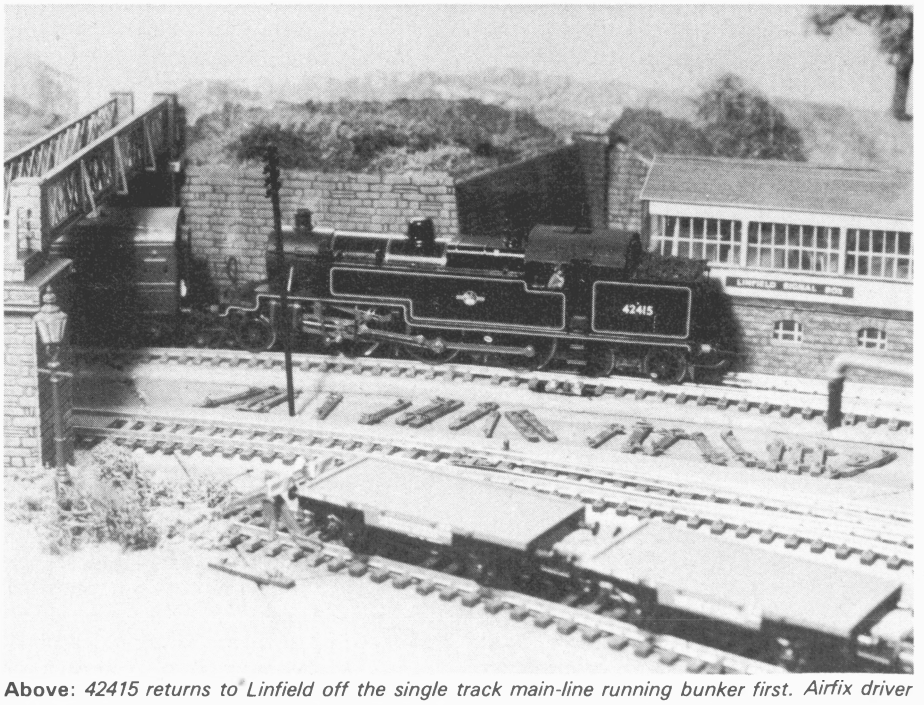
Kemco provide plenty of round and square corner pieces with the grey of the grey/black/red lining both on the outside and inside of the curve. This enables complex shapes to be followed. Look carefully at the particular chosen subject for your model as the livery details vary slightly with different engines. Some locos did not have lining along the valances but only on the tank and bunker sides. The crest can be of the old or new type applied in the centre of the tank sides. Above the bunker number is a small '4' figure in white. This is on the Kemco numbering sheet. The smokebox number is also from the same sheet.

Above: *About to leave on another parcels train. The period is early 1960s.*

Boiler bands are applied in continuous strips. Overhead warning patches can be added if modelling the post-1959 period. When all the lining is dry (it took me one evening to do each side) a final coat of clear varnish can be applied. I gave a further two light coats of Testor's gloss varnish. The cans had not been shaken too hard as I wanted to get a slight lustre to the finish. The final paint treatment was to tone down all the wheels and bright metal motion with Gloy underframe dirt paint, plus a little matt black and silver mixed in and hand painted. The cylinders were painted to match the body with red/black/red lining from Kemco. The roof was given a coat of brushed matt black with a few gloss streaks running down.

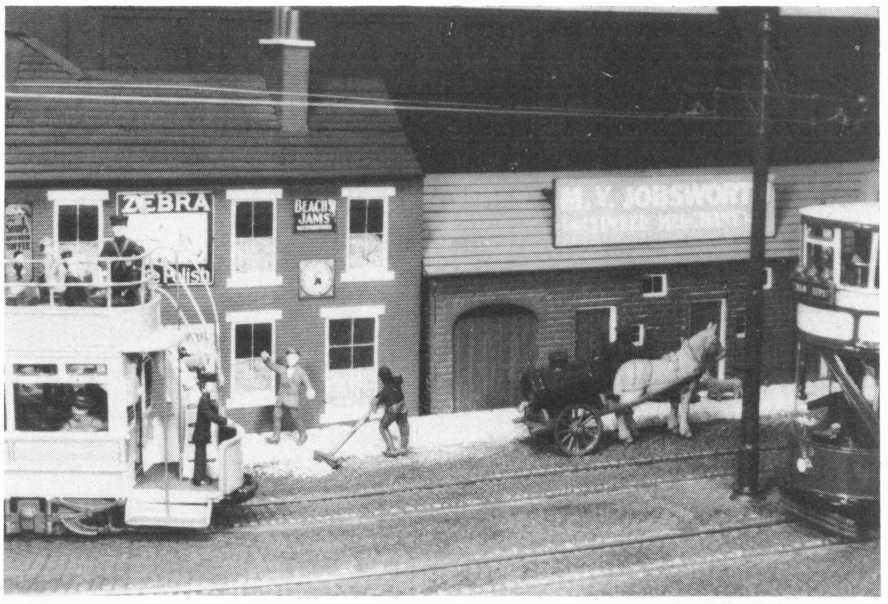
Last of all the bunker was filled with some crushed coal and the body and chassis were re-united. It had been a couple of weeks since I started work on the project but I had not been spending more than the odd couple of hours every other evening on it. Those with more spare time available should be able to complete the transformation in just a few evenings of dedicated effort.

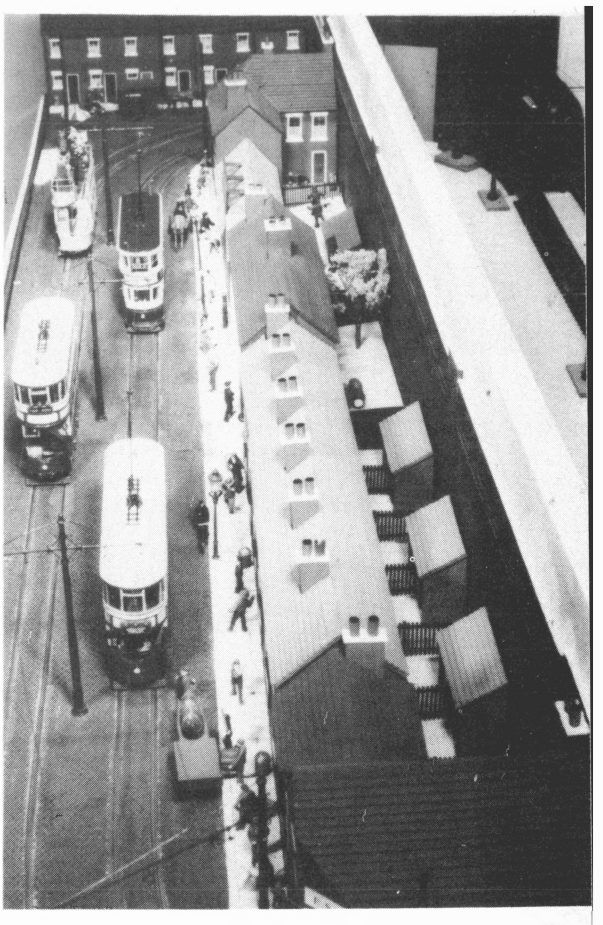
The fact that we now have such excellent models to start with gives us an incentive to try and push our own standards even higher — which as I said before was the object of the exercise. I could not disagree more with a dealer in a well-known London model shop who I overheard complaining that the latest ready-to-run models were too good and that modellers now had nothing to work on. He must have been joking!



Above: *42415 returns to Linfield off the single track main-line running bunker first. Airfix driver keeps an eye out for signals as the fireman hands over the token to the signalman. All structures are scratch-built.*

British United Tramways

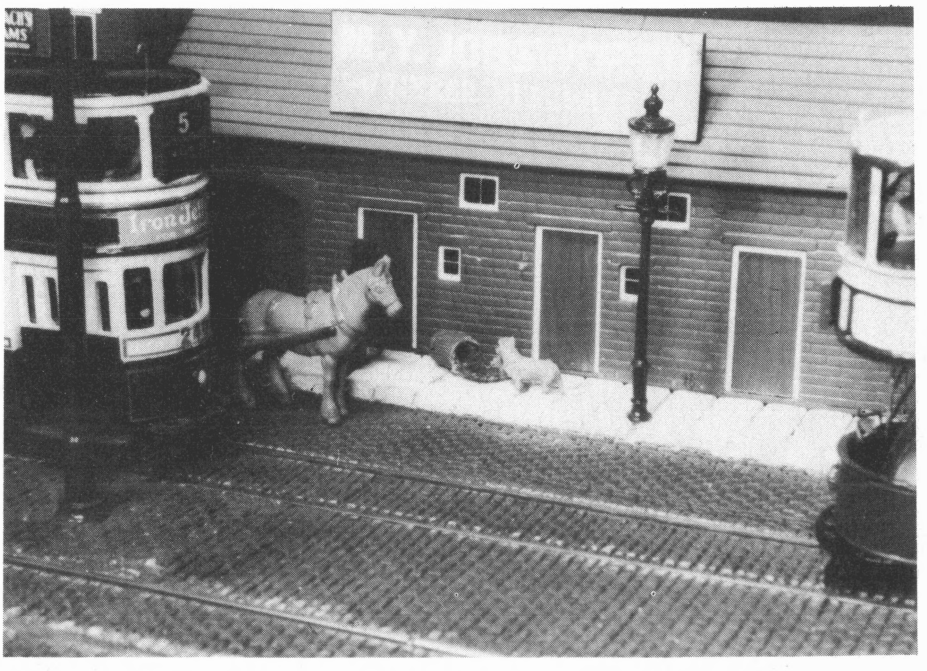




Above Left: *The roadsweeper at work. The open top car is Wolverhampton and District, the other is London County Council, car.*

David Voice of the Tramway and Light Railway Society describes his small layout which would be ideal as a first attempt at tramway modelling yet could always be added on to a railway layout later

Above: *A view of the street and the back gardens. The only greenery around, is the tree in the back yard of the pub. Hidden section is extreme right.* **Below:** *A dog sniffs at a spilt dustbin. Tram No 240 is a Leeds Horsfield. Note the realistic road surface, made as described in the text.*



The layout is 4ft 4ins long in order to fit on two cupboards, between a wall and a door. The width of 1ft 8ins was the minimum that allowed prototypical curves. The smallest radius is 6ins which scales up to 40 feet, about the minimum in general use, although they could get tighter in depots.

My greatest pleasure is the building of tramcars so the layout was made for two reasons; to act as a test track for the trams and also be a back screen for the purposes of photographing them. To fulfill the former the track is just two concentric ovals, each having six electrical sections. The significance of these will be revealed later. The track is ordinary flexible railway track and the street was filled in after laying the track. I used Pyruma fire cement and trowelled it into the gap between the rails first. While it was hardening the groove was cut for the flanges and the setts, each one 4mm by 2mm, were marked out with a craft knife. The rest of the road and pavement was done the same way. It only took three months! I sat in front of the TV night after night doing a section at a time. It nearly drove me mad but there was no other way of getting the texture and patterning that was so distinctive. Unfortunately the Pyruma seems to have some chemicals that keep fading the painted surfaces. Since then I have experimented with modelling clay with great success. The buildings were scratch-built from plastic card and are based on houses and shops in my own town. This was my first encounter with plastic card and I have been disappointed in the way it distorts with age and temperature change. It would probably have been easier to work from plastic and stiff card kits, converting to suit the site.

Soon after the overhead was completed some books were accidentally dropped and showed just how vulnerable it was. So a strong plywood box top was made that fits over the layout and can be bolted in place. This is kept covered unless actually in use and the cover also keeps the dust out. Just after it was completed the TLRS had a models competition and I entered the layout and six trams. Fellow members showed considerable interest and I was encouraged to exhibit it.

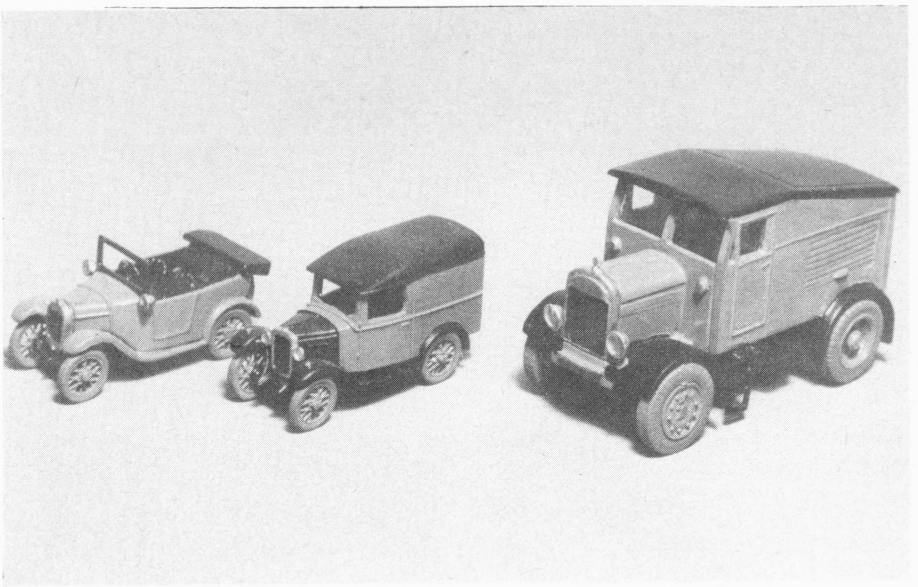
It may seem that a layout with no turn-outs is completely pointless! But this is not necessarily so. The keys to exhibition work are the six sections on

Continued on page 306

Roadscene

A survey by Gerald Scarborough of road vehicle models of interest to rail modellers.

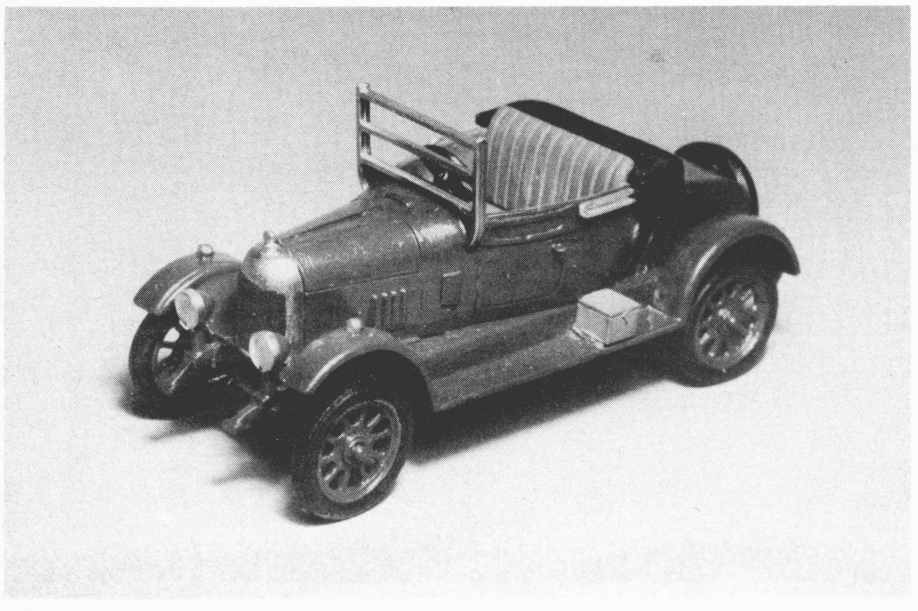
This month I had planned to devote to a few new 1:43 scale kits particularly suitable for 0 gauge to give modellers and collectors some idea of the range that is available, but yet another kit from Fraction Models, 21a Wharf Road, Grantham, arrived so I will deal with it first. This new kit to 1:76 (00) scale priced at £6.75p, including postage, is for a Scammell Showtrac of the mid-thirties, a road tractor specially produced for Showman's use to haul fairground equipment on two or more trailers. Equipped with a generator and ballast in the back the Showtrac replaced the usual adapted vehicles, being a special design for the fairground and circus industry. The kit is in white metal, the castings require a little work with the file, but construction is so easy that the model can be completed in a couple of evenings. There are no suggestions for a colour scheme in the instructions but they were invariably finished in bright eye-catching colours and mine is mid-blue bonnet and cab front, red sides and rear with black mudguards and roof. The wheel centres are in the blue with hubs, lights, radiator surround in polished metal finish. By leaving the roof until last it is possible to glaze the windows though the windscreen is a bit tricky. I look forward to the next Fraction Model which is planned to be a dodgem car transporter which will go very nicely between the Showtrac and the Showman's caravan.



D.G. Models Austin 7 and Morris van alongside the Scammell Showtrac from Fraction Models.

Models in 1:43 scale or near to it, suitable for 0 gauge railway layouts, are, due to the collecting craze, becoming more readily available. There are plenty of cars notably from Western Models, Mikansue, K & R Replicas, Auto Replicas, etc, mostly of sports cars but including some 'everyday' transport.

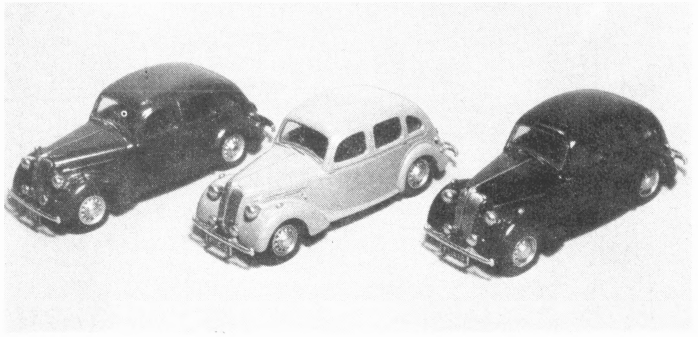
Top of the tree for quality are Somerville Models, Westfield House, 104 High Street, Billinghay, Lincs, and the latest is the Standard Flying 12, another family car in the traditions of the earlier Somerville kit of the Ford Popular. The body is mainly a one piece casting to which, after painting, are added the plated radiator grilles, headlights etc. The chassis underpan is detailed by the addition of seats, gear lever etc. and then the two main parts with the front and rear bumpers are fixed together with screws front and rear. There is a bit more to it than that, of course, for there is a detailed dashboard with steering wheel, a glazing moulding, plated fog lamps, side lights and wheels, all immaculately produced to the very highest standard. Price of the Flying Standard kit is £9.45 including VAT, plus 25p postage direct from the manufacturer, but they should be easily obtainable from the usual retailers. Future models include a Ford E494 van based on the Ford Popular car but these will be in made-up form only. Kits are not available.



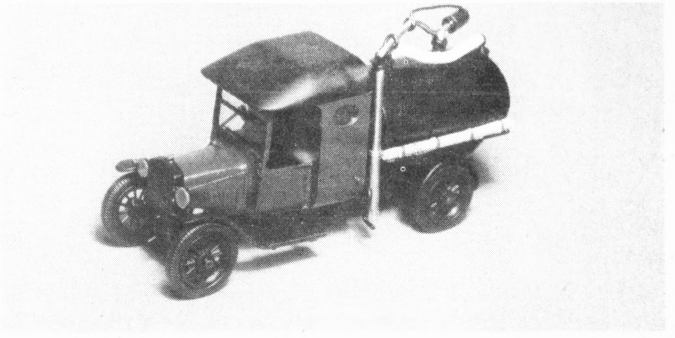
The Morris Bullnose from Wills Finecast is an attractive model at a reasonable price.

Wills Finecast, Lower Road, Forest Row, Sussex have an attractive range of 1:43 scale cars including an Austin box saloon and a Morris 'Bullnose' two seater. Both of these could be converted into vans to increase the light commercial fleet and there are plenty of illustrations of contemporary vans on which to base a model in *Light Vans and Trucks 1919-39* by Almark. The Morris is the easier kit of the two, the neatly cast parts require little work with the files as all the pieces fit virtually 'from the box'. The spoked wheels on the Austin 7 are constructed with etched brass 'spokes' to white metal tyre/rims which, if carefully assembled, result in some of the best spoked wheels in any 1:43 scale kit. All the Wills kits I have made (which is most of them!) are to a high standard at a reasonable price but, as bodies are in several parts, they do require more assembly than most white metal kits.

Pirate Models, 430 Hoe Street, London E17 9AA seem to be the only kit firm interested in 0 gauge commercials but they have a range of seven, all based on the Ford T. These are a Hearse, a 10-12 seater 'Jitney' bus, a parcel van, an ambulance, a fuel tanker, a gully or cesspit emptier and a truck. The two of this range that I have made are the Jitney and the gully emptier, neither of which proved difficult to construct and both are excellent vehicles of the period. The only awkward bit was fitting



The Somerville Flying Standards in Maroon, Grey and Black, are available made up or in kit form.



Pirate Models gully emptier is one of seven varieties of Ford T light Commercial available in kit form.

the front mudguards to ensure that they were both at the correct angle and in line, but a couple of matchboxes propping them up before the adhesive cured did the trick. Some of the parts did need a bit of filing but the only parts I had to use body filler was on the top of the tank of the gully emptier, parts which are difficult to mould accurately. If you have to use a lot of filler on a white metal kit then it doesn't say much for the castings and, with the exception of the tank, no filler was used on either the Pirate Models kits. Wheels are of Matchbox type with 'rubber' tyres and finish of my model was in Humbrol Crimson Lake (HR 116) with Humbrol Black (85) to the tank, mudguards, chassis and cab 'roof'.

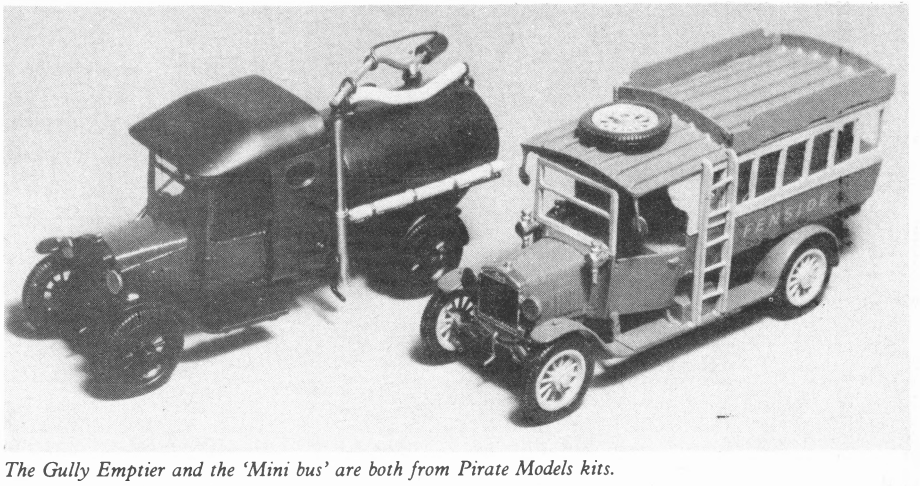
Most 'vintage' 0 gauge layouts will boast a few Dinky Toys as these are near enough to scale to look accurate and in keeping with the period. In the old days, of course, Meccano Ltd always emphasised the link and did some special models such as station personnel and passenger sets. D.G. Models, 2 Linden Avenue, Halesowen, West Midlands B62 9EL, produce a good range of 'Dinky style' models of cars and vans and also, of particular value when restoring old models or scratch-building or converting, have a range of transfers to add the finishing period touch. Some models are available only as made up but others are in kit form, prices being around £5.50 per kit plus postage but do send a SAE at least for the list. The kits are very simple. The photograph shows the Jaguar Airline Saloon as I intend to modify it with some Matchbox wheels as the kit comes with traditional plain Dinky style wheels.

There are now plenty of die-cast models available from Solido, Brumm and the Matchbox Yesteryear series, etc, which are near enough to 1:43 scale. In particular the Talbot and Ford T vans and the Crossley from Matchbox are ideal bases for conversion or even just a simple re-paint and set of transfers from the D.G. Models range. Strip them to their components, remove the paint with a proprietory stripper and re-spray with an aerosol spray tin or airbrush in the new colour scheme, then re-assemble using epoxy resin adhesive to hold the components together. For contemporary layouts the very latest Dinky Toys should not be overlooked — a range of current 1:43 scale cars all very nicely detailed and finished.

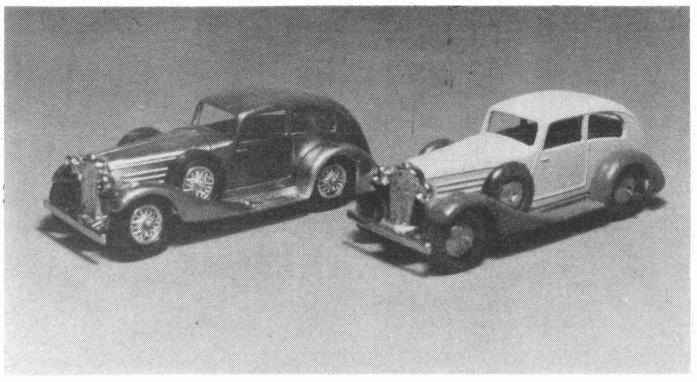
For 1:43 scale we have to depend largely on the metal kit market with the exception of just two plastic kit manufacturers, Heller with a range of modern cars, plus two,the Peugot 203 and the little Renault 4CV, from an earlier period and from Revell, whose chosen scale is 1:48 to match American 0 gauge though mostly quite acceptable for 1:43 or 1:45 scale 0 gauge. The Revell range covers a wider time span with Fords from 1925 Model T, 1929 Model A, 1932 Model B Coupe, 1957 Thunderbird, plus Packard, Jaguar, Duesenberg, etc. to extend the range. If you don't mind the slight discrepancy in scale for British or European 0 gauge, then the Revell kits, at their price, are a good buy as background models.

The early Fords are a gift to convert into vans and light trucks and as an example I converted the Ford T into a truck in an evening. The photographs show how the main parts were cut, a plastic card chassis to longer wheelbase was added, the body from scored plastic card, tilt hoops from plastic rod and the 'canvas' courtesy of Izal!

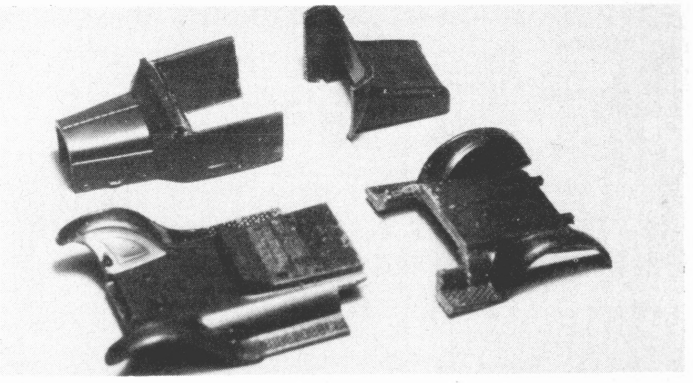
For a 'quickie' I think it looks quite effective but an overspray of weathering would tone down the 'new' look although in the 'flesh' it looks more natural, my floodlights do reflect what is only a semi-gloss finish. Both the 1929 and the 1932



The Gully Emptier and the 'Mini bus' are both from Pirate Models kits.

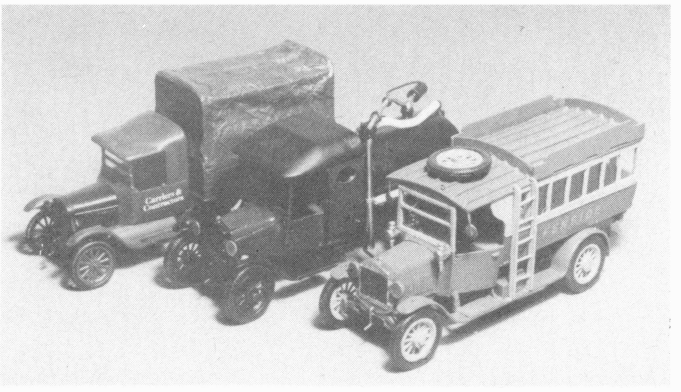


D.G. Models 'Dinky style' models, these are the Jaguar Airline; the left model with Matchbox wheels and the right as the kit in traditional 'Dinky style'.



Cut the main parts of the revell Ford T as shown, then turn page to see how to finish it off . . .

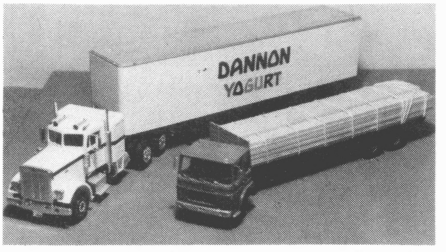
Extend the chassis and fit a truck or a van type body. This one is typical, but a stake or pick-up style could be used.



Although the Revell kit is to 1:48 scale it does not look out of place beside the Pirate Models which are 1:43.

Fords would make excellent vans. In fact there are many possibilities for a keen modeller to make many different versions of car and light commercial from these inexpensive Revell kits. Revell also produce trucks in 1:48, Kenworth, White, and Chevy, all of 1956 vintage and reviewed in previous issues.

Large commercials in 1:43 scale are few and far between being restricted to modern American big rigs as the Matchbox/AMT range which are of course very nice models or could be cannibalised to scratch-build European types. They are not entirely unsuited as they come, for American big rigs are very occasionally seen in Europe these days. Solido do some die-casts. That illustrated is a modified Saviem which actually came as a kit of parts, but again these are modern vehicles. The only hope for old lorries is to find some old Dinkys and refurbish them as suggested for the vans and cars but there does seem to be a wide gap waiting to be filled by some enterprising manufacturer. Meanwhile we must keep searching for those old die-casts until we get a nice bus and a couple of lorries from the nineteen-thirties to enhance 0 gauge layouts.



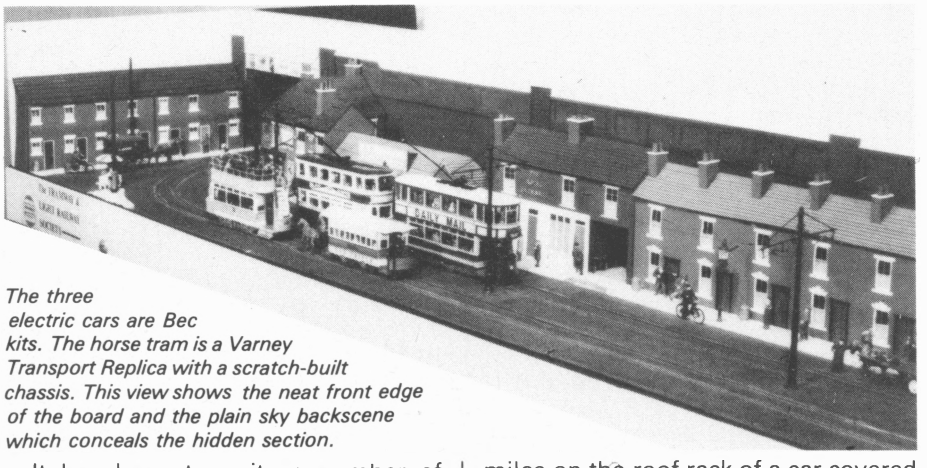
Two modern 1:43 scale models are the Matchbox/AMT range of American style rig and the Solido Saviem, much modified with wipers, mirrors, sussies and a shortened chassis.

British United Tramways

from page 303

each oval. Two sections go from the back to meet in the front, while the other four are at the back. The operating sequence begins with four trams in the back sections. The first tram is driven to the front and just on to the second section. The second tram appears and halts immediately behind the first. There is a pause for the public to look at the two trams and for the operator to run the other trams along the sections at the back. The first tram is driven round to the back followed by the second. Then the third tram appears and draws to a halt just in the second section and is followed by the fourth tram. The behind the scenes shuffle takes place and the two trams disappear one after another. The sequence is ready to start again. The public can be further astonished by deft hand shunting allowing all the available fleet to appear. This was all built before the days of Multiple Train (Tram) Control and the magic is somewhat dulled as people think it is done by transistor.

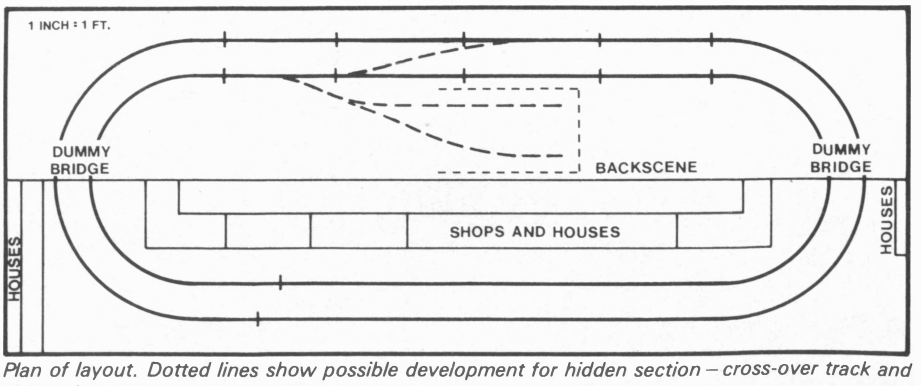
The basic movement on the layout therefore consists of the tram appearing stopping and disappearing. In an attempt to add variety of a different sort for the keen eyed viewer some effort was made to incorporate little scenes in the street. For example there are two children waiting for ice cream from an old fashioned cart, a dog sniffs at a fallen dustbin, a man sweeps the street and in addition to these and others there are crowds of people filling the pavement to give the scene plenty of life. The hundred or so little people were converted from civilians and soldiers of many nationalities and historical periods. Painting them all was reminiscent of the marking out on the roadway!



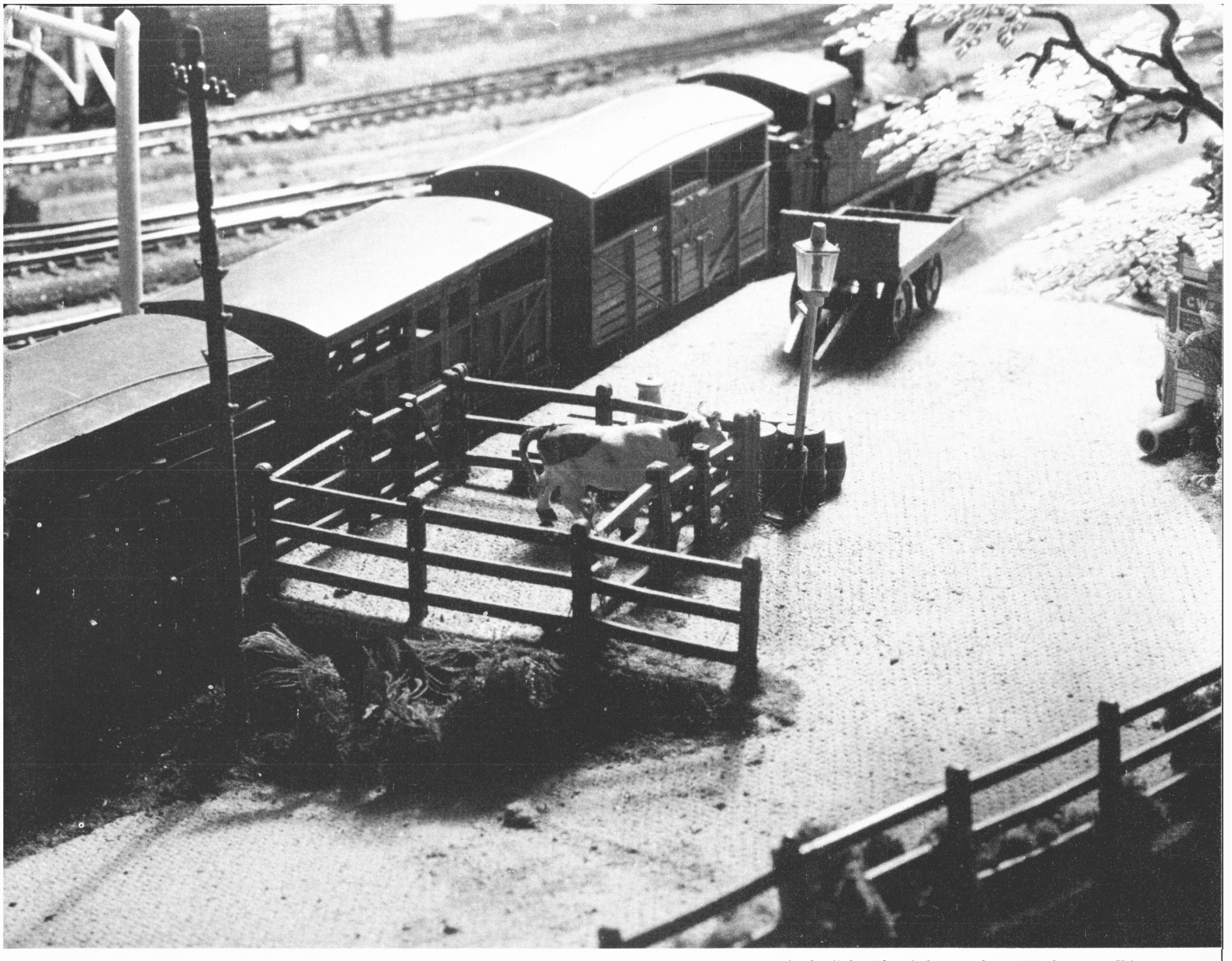
The three electric cars are Bec kits. The horse tram is a Varney Transport Replica with a scratch-built chassis. This view shows the neat front edge of the board and the plain sky backscene which conceals the hidden section.

It has been to quite a number of exhibitions and will be going to at least three this year; Wyre Forest, Kidderminster, 11-12 April, Birmingham Railway Museum, 31 July, 1-2 August and Northampton & District MRC. 26 September. The box top has been invaluable for exhibition purpose. In fact the layout has travelled many hundreds of miles on the roof rack of a car covered only in a large plastic bag.

The only thing to add is that the overhead standards are Meadowcroft, the overhead ears are Suydam and the trams are mainly BecKits but also include all the other British manufacturers mentioned in the March 1981 issue and a few scratch-built.



Plan of layout. Dotted lines show possible development for hidden section – cross-over track and sidings into car depot.



On John Flann's layout, the 14XX class 0-4-2T is pushing the cattle wagons into the siding to await arrival of consignments from the local market. An early purchaser has already got his cow to the yard and into the pen!

Cattle dock

Handling the cattle traffic. An easily made source of busy traffic for any country station or branch line, by John Flann

Photograph of John Flann's model by Brian Monagham

A feature of most railway goods yards used to be a cattle dock. On this were the cattle pens. This, of course, was in the days when cattle and other farm animals were a source of rail traffic — now they all go by road. It meant in the old days that cattle wagons were a common sight and they were often to be found in complete trains or as part of a local goods train — often running empty to their next destination. The extent of the traffic varied from area to area. It may have been regular, it may have been season, or it may have been only very occasional in some parts. In a rural area, and on lines serving market towns in particular, it may have been one day every week when trains of cattle wagons were to be seen. In some big market towns the market itself was adjacent or close to the station yard, and such yards on market day may well have been jammed with cattle wagons and extra train workings were arranged to cope with them —something for your 'operating department' to think about if your layout features a country town and you are looking for an excuse to run more trains.

If the cattle traffic handled was extensive the pens might stretch for a considerable distance and be served by more than one siding. If the traffic was occasional there might be only limited facilities. It also has to be borne in mind that cattle traffic was valuable and the beasts had to be safeguarded in transit with special arrangements made for their feeding, watering, and cleaning. If you have any sort of country or branch line, therefore, cattle traffic is extremely appropriate and an attractive cattle pen can be made using Airfix fencing as the basic material.

The photograph above and that on page 313 of the June 1980 *Model Trains* illustrate how the cattle pen will look when it is finished. To start with take lengths of Airfix fencing and compare them with the diagram to see where various cuts are to be made and how the different pieces are formed. After cutting pieces for the sides, front, and rear, start with the two sides and cement them to the front and rear pieces. This becomes the width of the gate opening to be ascertained and which on the front and rear end is to be filled by two small gates about the width of a single panel of fencing. Cut the gates to size, add bracing strips as shown, and fix into place. Make sure the braces are fixed in the correct manner.

When complete the fencing can be secured to a piece of plastic card to form the floor of the pen. This can vary in finish. Cobbles or concrete were common (depending on date of building) but it had to be a surface on which cattle could keep their feet and which could easily be hosed down and cleaned. So there also needs to be

Continued on page 313

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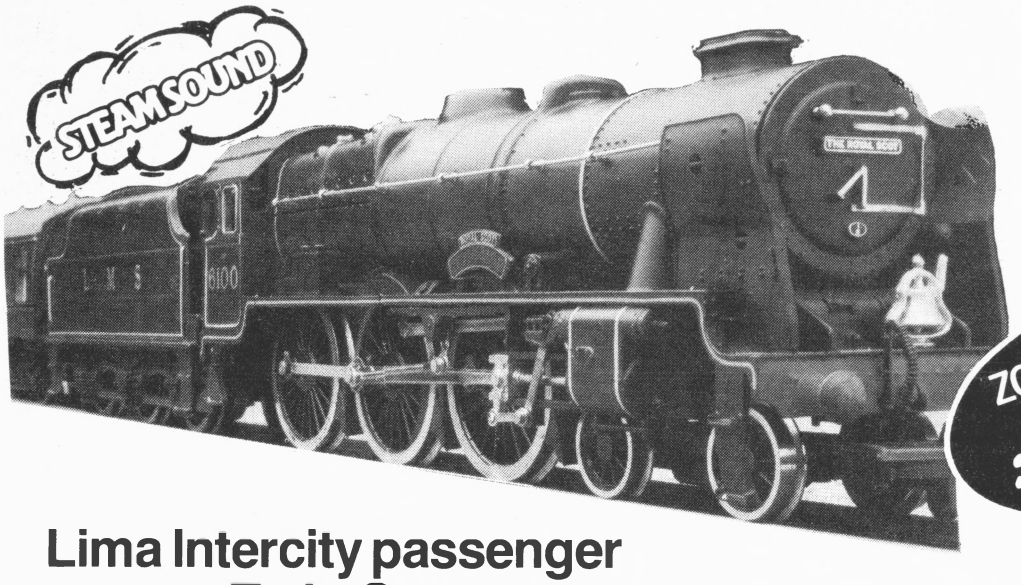

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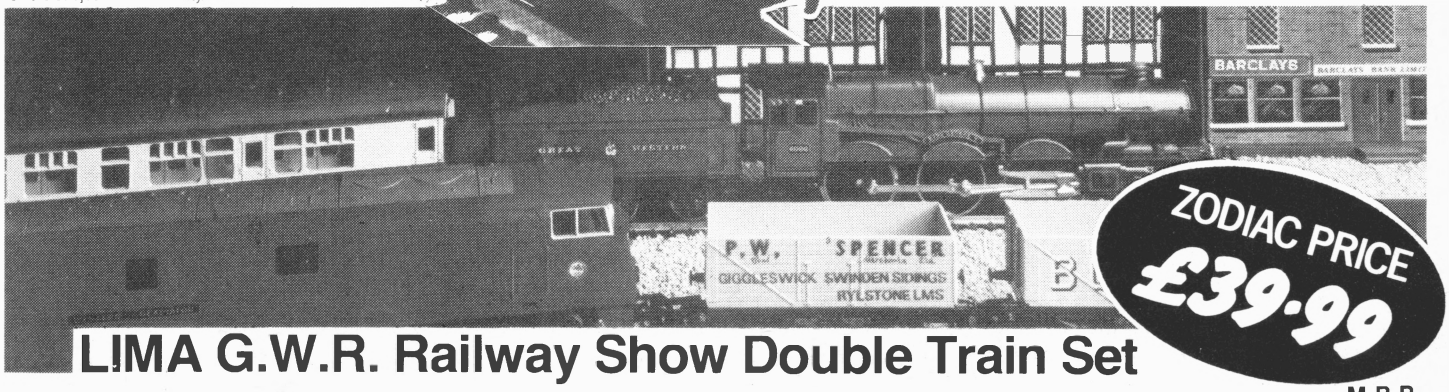

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23 STATION ROAD, ASHFORD, MIDDLESEX **07842-52307**

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218 HIGH STREET, CHATHAM **0634-43795**

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38 CENTRAL PARADE, LODGE HILL, ADDINGTON SURREY **0689-43554**
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28B CASTLE CENTRE, BANBURY, OXON. **0295-57540**
21 REGENT STREET, WREXHAM, CLWYD **0978-266990**
7 ANKERSIDE, TAMWORTH, STAFFS. **0827-58322**
3 THE HOWARD CENTRE, HORNE LANE, BEDFORD **0234-215295**
42A KING STREET, THE COLMAN CENTRE, DARLASTON, WEDNESBURY, WEST MIDLANDS **021-5264614**
9 JOSIAH MASON MALL, KIDDERMINSTER **0562-744226**

UNIT 22, FOUR SEASONS SHOPPING CENTRE, MANSFIELD **0623-36222**
12/14 WEST MALL GALLERY, ARNDALE CENTRE, DONCASTER **0302-22859**
51 LORD STREET, LIVERPOOL **051-236 7450**
31 GEORGE STREET, ALTRINCHAM **061-928 9443**
15 MARKET WAY, ROCHDALE **0706-524041**
75/77 HIGH STREET, HOUNSLOW **01-570 0041**
9/13 POWIS STREET, WOOLWICH **01-854 2820**
97 CLARANCE STREET, KINGSTON UPON THAMES **01-546 8178**
233 THE BROADWAY, BEXLEYHEATH **01-393 4334**
1a/2a WINDMILL STREET, GRAVESEND **0474-52839**

Typical duty for a Fowler 4F – handling empty coaching stock at Bristol Temple Meads on May 5, 1963. No 44569 was built at Crewe in 1937 and has a Stanier chimney and coal rails on the tender. Since it is used for passenger work it has a steam heat pipe on the front buffer beam – often removed on locos used for freight work only (J.Bryan Hicks).

A Fowler 4F for gauge 0

How to alter Lima's ready-to-run model for service on your layout . . . a simple project described by Chris Ellis

If last month's survey of 0 gauge and its potential whetted your appetite for the delights of the larger scale, then your first locomotive purchase may well be Lima's Fowler 4F, unless you opted for the Highfield vac-form kits of a Sentinel and a tram engine designed for the Lima 0-4-0 chassis. The Fowler 4F and a Class 33 diesel are the only ready-to-run options for the modeller wishing to buy British stock in gauge 0, since all other ready-to-run gauge 0 locomotives are for American, German, French, or Italian prototype in that order of quantity.

Since Lima introduced their range of 0 gauge models some years ago they must have been responsible for persuading quite a lot of newcomers into this larger scale. All credit to them, for the 0 gauge market, though expanding a little at present it seems, has been only a fraction the size of 00, HO, and N, and has never had so much publicity in recent years as all these smaller scales. Tooling up for locos and rolling stock as mass-produced plastic items for gauge 0 therefore takes a fair amount of commercial courage. Naturally costs are even more critical here than they are with 00/HO and it is not altogether surprising to find that Lima simplified their British outline models for 0 gauge wherever they could. However, this also kept prices within reach of the average modeller, and if you want the Fowler 4F it will cost you around £20 (or a little less) at full RRP and down to around £12 at discount. When you see the size of the model and remember it is cheaper than the average 00/HO loco these days, the value for money is apparent.

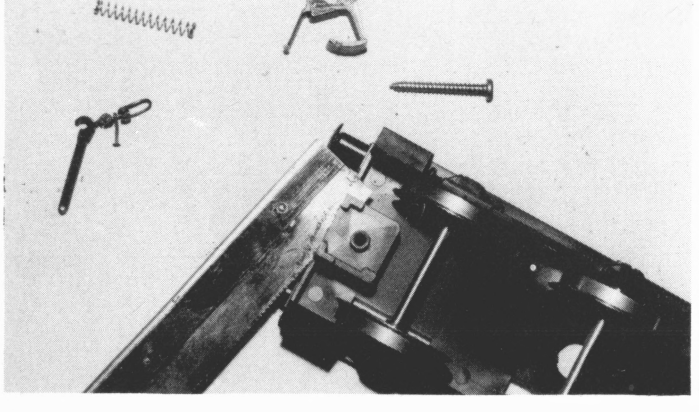
Digressing for the benefit of newcomers to the gauge 0 idea, let me add that there is a yawning gap in the price range for locomotives beyond the Lima 4F. You can pay something like £39-£100 (UK) for a loco kit, and well into three figures for a hand-made model of a British locomotive in 0 gauge. If you can afford these sort of sums, no problem, but for the modeller on a limited budget then the Lima 4F is salvation indeed. It makes entry into 0 gauge possible for many who would never have been able to afford it before.

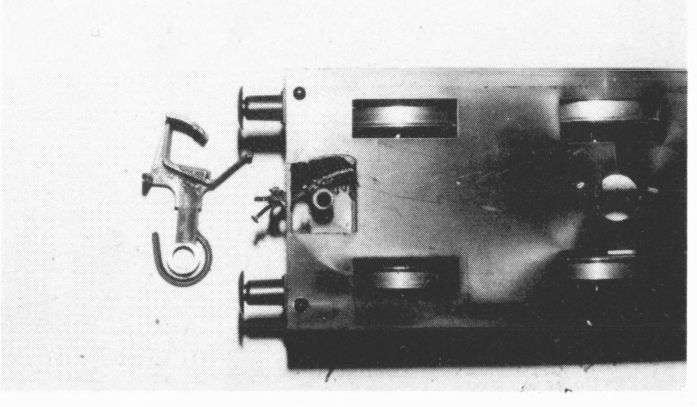
It could be said that a 4F, a Class 33, or nothing is a rotten choice compared with the huge selection offered the 00,HO, or N modeller. So it is, but I've often found the limitations of the gauge 0 market a positive attraction. For instead of having everything offered you 'on a plate' so to speak, you are forced to use a bit of ingenuity and enterprise to make the best of what is available. This in turn gives a good extra degree of modelling pleasure and the added satisfaction of knowing you have had to put that extra bit of effort into your modelling efforts to get your trains running.

Most of us modelling 00 or HO are so spoiled for choice that we can pick up any new locomotive model we fancy in the ready-to-run category, just because it is there and assuming we have the purchase price to spare. In the gauge 0 ready-to-run (or even kit) field the choice is more limited, but if anything that more closely simulates the problems of real railway management – making the best of it. On my Fair Weather (Goods) branch we have only the Sentinel shunter (a recent acquisition) and the Fowler 4F and that is more than enough for a 'Derwent Valley' type operation. If either engine is in for maintenance the other one has to do all the work – added anxieties for management but that's how it would be in real life. Contrast this with 00 scale running when we have a rich surplus of locomotives just because they have been so easy to acquire.

In fact for a very small 0 gauge layout you can manage quite happily with just one locomotive, so don't be put off if it's the Lima Fowler 4F or nothing! You'll get along fine, and I find that the extra size and atmosphere of gauge 0 models more than compensates for lack of numbers.

Below: *Fitting scale couplers. The Lima auto coupler is pulled off when the screw is released. The coupler pocket is sawn away, and scale screw couplers are inserted through a slot drilled or burnt into the buffer beam. Bend the coupler shank to clear the screw pillar. Treatment is the same each end. File mould lines off buffers.*





Well, assuming you've got your hands on a Lima Fowler 4F what are you going to do with it? Actually it looks quite crude and cheap in its 'as new' form – perhaps 'stark' would be a better word. It is to 1:45 scale, but you would not know unless you measured it as this is so close to 1:43 in any case. However, the outline and dimensions are all very accurate and it runs quite well, though it is light and a little noisy (sounding more like a diesel!). It so happens that lots of gauge 0 modellers have already converted the basic loco to all sorts of other 0-6-0, and being plastic and big it certainly lends itself to chopping up. One of the Gauge 0 Guild publications gives instructions for converting it to a quite different looking machine, a Lancs & Yorks 0-6-0, for example. Only your own ingenuity and modelling skill will limit you in this direction. The Fowler 4F happens to be a favourite of mine, however, and suits the 1950s period of my 0 gauge modelling, so all I did was the basic detailing job to improve the appearance of the model as a 4F. Even this objective can be approached in dozens of ways, for given the basic 4F outline of the model you can exploit any 4F variation you fancied – early period, late period, Deeley tender type, tender cab, Midland 4F with right hand drive and beading on the splashers and so on. My model happens to have a tall Stanier chimney and a tender with coal rails because that is my favourite form of the 4F, but you can detail the model to conform to your chosen variation, taking care only to get an appropriate number for the version you choose. Obviously if you want a tender cab or an early type tender you'll have to do more 'chopping' than I have done. The Ian Allan book *Fowler Locomotives of the LMS* and our January 1980 and December 1980 issues will help you with the details, for between them they show just about every possible variation.

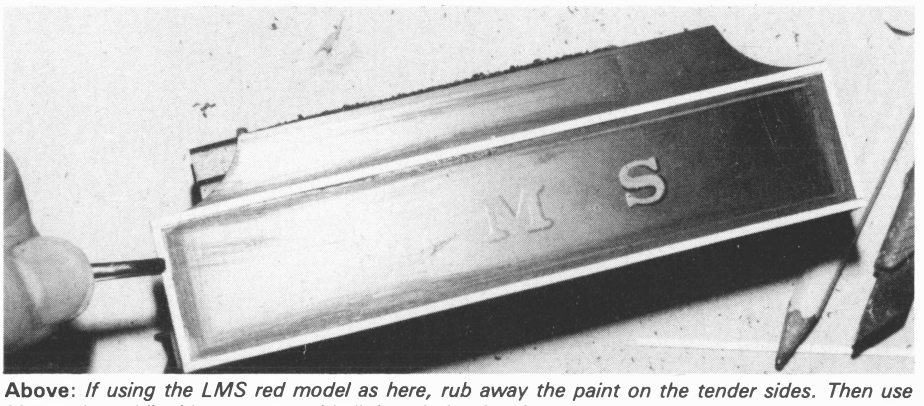
Whatever you choose, the stunted coal rails on the Lima tender must be sawn off, and the ribbing moulded on the footplate must be scraped or sanded off (the most tedious job, but not difficult). Just these basic changes will improve the look of the model, but now follow the pictures for a full sequence of work to bring the model up to a very acceptable standard.

One or two minor points might supplement the photographs. First my crew figures are converted from odd plastic figures, making them look different from items sold as train crews. It gives individuality and saves a bit of money. Second, from past experience I left the mechanics of the model alone – with me, tampering with chassis and wheels never works out too well and I often end up with a 'lame' model. However, some modellers have fretted out the plastic spokes, others replaced the wheels completely. I used 'grime' in the weathering process to try and make the spokes stand out. You may not like the idea of 'solid' wheels (shades of early Triang) but these are less irksome and noticeable than they may appear to be from the photographs.

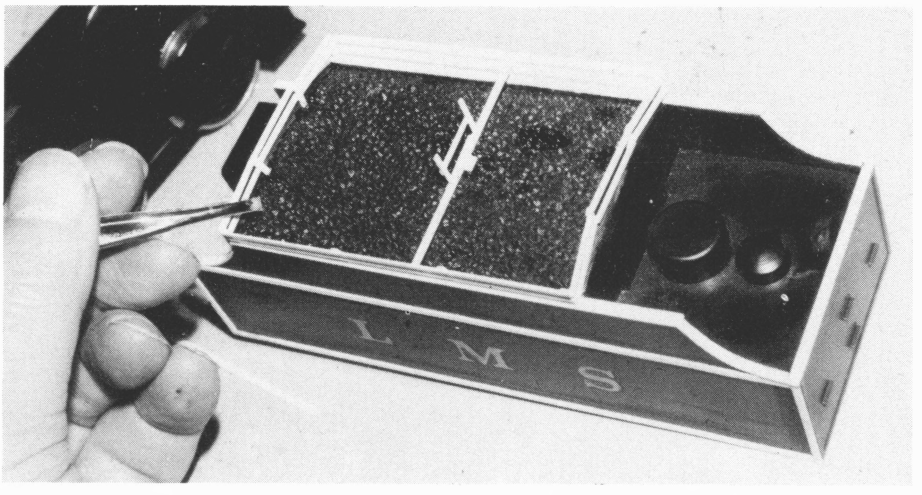
The list represents purchases for the model as shown, but there is variation even here. On the model the tank vents were made from scrap, but you could purchase them too. You could save on the sand boxes by making them from plastic card (though this is rather tedious), and you could retain the Lima chimney, which most nearly resembles the BR type fitted to some locos. Also you can get cheaper brake pipes than the 'de luxe' type used (they actually clip together), or you can use guitar G string to make your own. All the fittings are available from Charles Covey Models, 572 Kingston Road, London SW20, but there may be other suppliers. Plastic card, paint, tools, transfers, etc, are assumed to be to hand.

You can go well beyond what is described here in your efforts to revamp Lima's model. One firm offers a complete super-detailing kit at around £16.50 and another a complete chassis to replace Lima's at around £40. Both of these, admirable as they are, take you away from the budget price attraction of the model, so I've concentrated on the lowest possible outlay consistent with getting a good model. Our actual budget worked out like this, except that I have updated to current prices from the shops, as I purchased my model five years ago.

4F loco (sale/discount price)	£12
Stanier chimney (other types available)	84p
Screw-type loco couplings (Cambrian)	74p
Six cast sand boxes and pipes	£3.84
Four brake shoes	72p
Brake pipes (working flexible type)	£2.45
Total:	£20.59

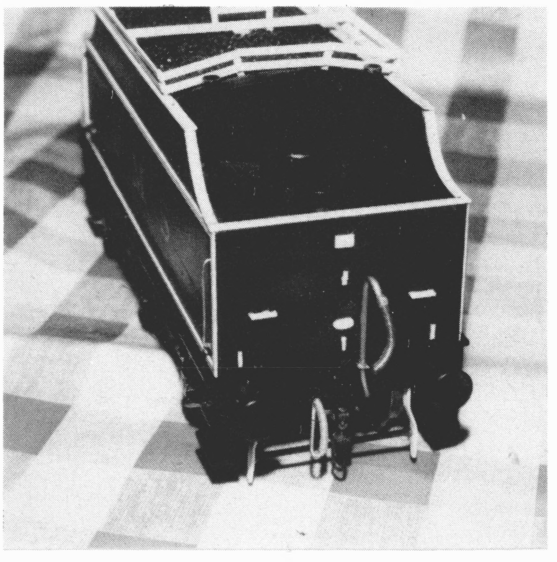


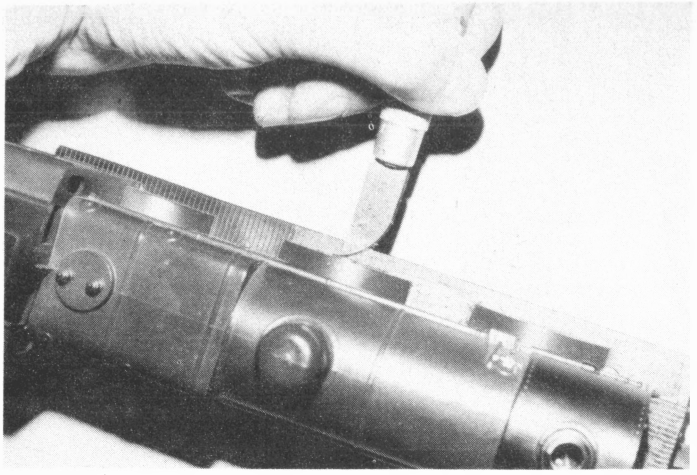
Above: *If using the LMS red model as here, rub away the paint on the tender sides. Then use Microstrip and liquid cement to add all the missing framing to each side of the tender. It is already moulded on the back end.*



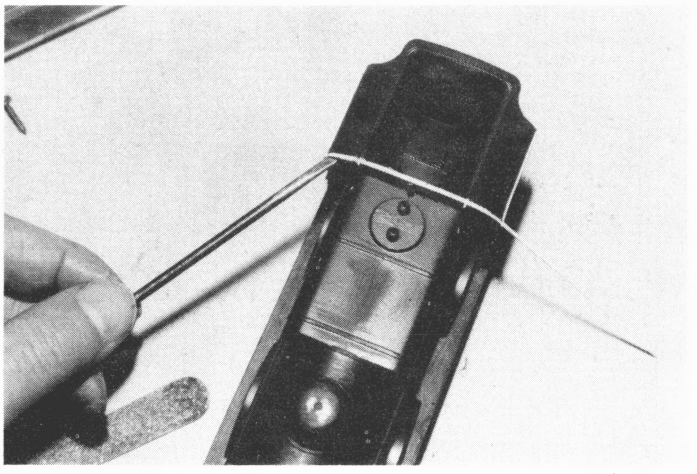
Above: *Complete tender body details by using Microstrip to add beading to the top edges. Then use more Microstrip to add coal rails the depth of these being 5mm when assembled. Make up sides and ends on a flat work top, then glue them in place. Note frame for fire-irons. Use pattern with Crab article, April 1981 issue, for coal rail arrangement. This is optional. Original moulded coal rails were sawn off first.*

Right: *Add water tank vents (purchased or from scrap plastic), new end steps, water capacity plate, builder plate, lamp irons, all from plastic card. Locate brake and steam heat pipes as shown each side of coupler, and add rear guard irons from plastic card glued inside frames, with Microrod plastic bar. Note handrails added from wire.*

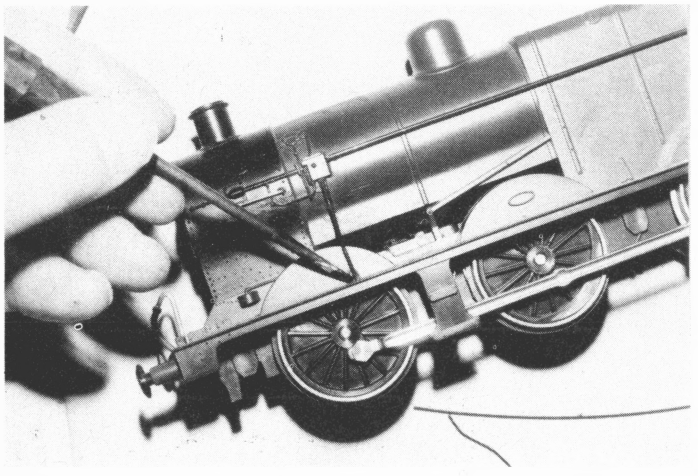




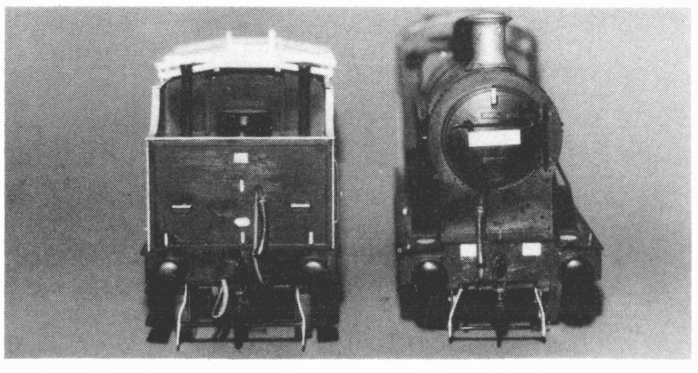
Above: *The longest job. Using an old knife blade to scrape off the unwanted ribbing on the footplate. It is a fairly easy job if you do it like this, then rub over with fine emery paper. Leave the ribbing inside the cab only.*

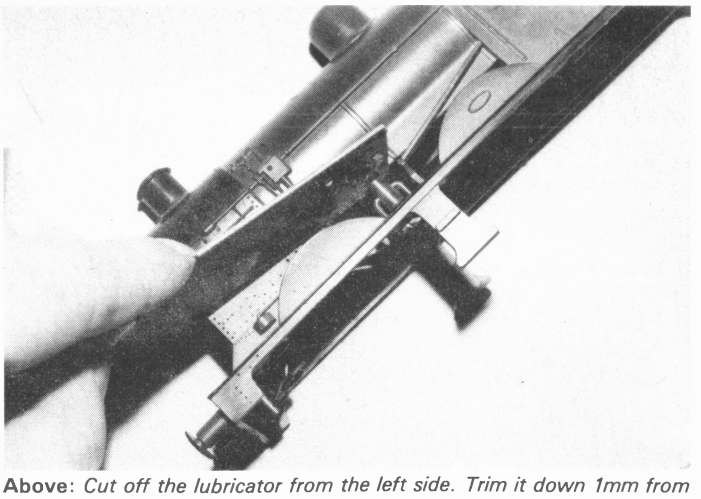


Above: *Extend the roof line at the top by adding a 1mm strip of Microstrip around the front edge. Add two rain strips at the eaves (not for early version) and extend top strips over the new lip.*

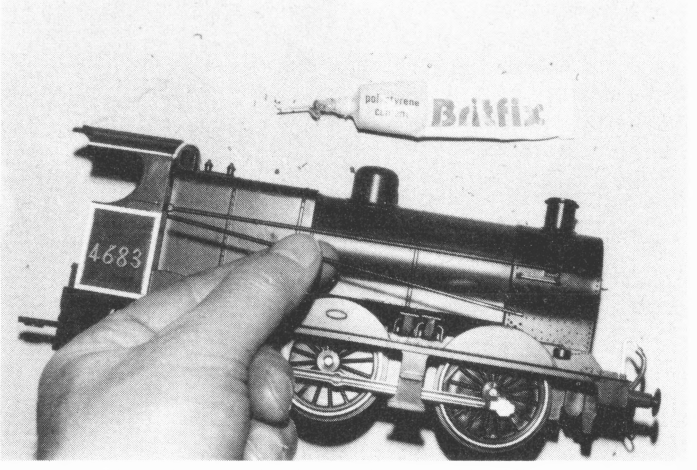


Above: *Cut away the moulded injector pipe and make a new one from thick Microrod bent to shape and coming out side the splasher. Note new horizontal handrail and brake pipe added at front.*

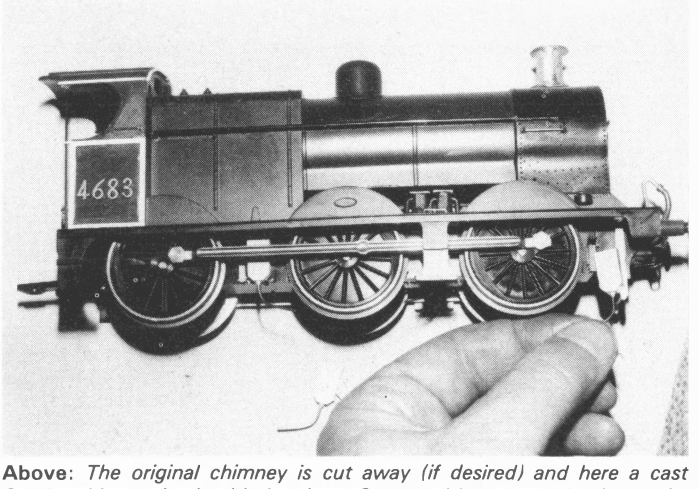




Above: *Cut off the lubricator from the left side. Trim it down 1mm from the top, add a flat top from plastic card, and glue it alongside the lubricator on the other side which should be similarly modified. For RH drive version do the opposite, but cut away moulded reverse lever and add one the other side.*

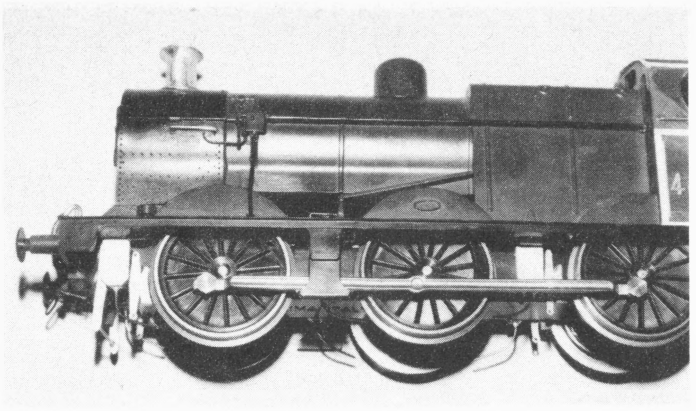


Above: *Add framing on side of cab. Then use thick Microrod to make a thicker steam pipe each side of the boiler cemented over the moulded rail which is rubbed down a little flatter. Add small horizontal handrails to smokebox and cab from Rexel staples.*

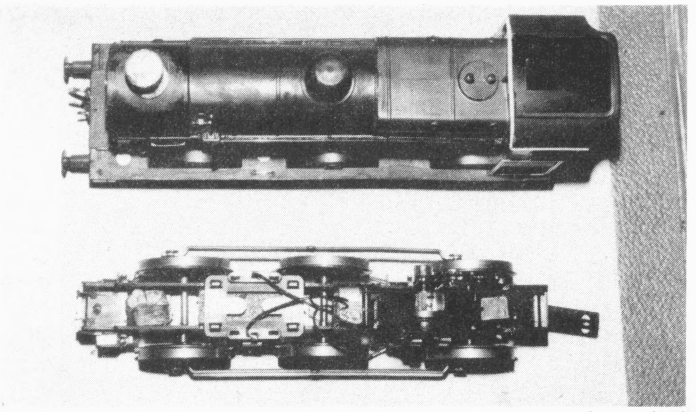


Above: *The original chimney is cut away (if desired) and here a cast Stanier chimney is glued in its place. Cast sand boxes are glued over the moulded representations of them on the Lima chassis (use Five Minute Epoxy) and small lengths of square section plastic are glued to the side frames to take the brake shoes which will be added next. Microrod is used to make the cab handrails, now glued in place.*

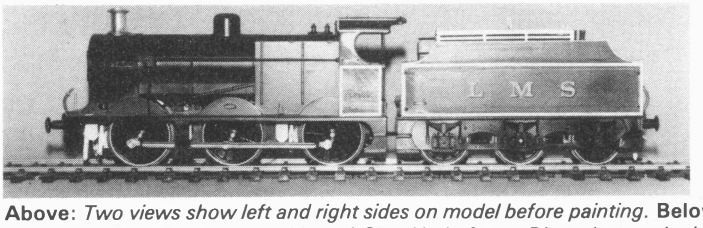
Left: *Add a new smokebox number plate over the moulded one. Add front lamp irons from pieces of staple or plastic strip. Cut off piston tail rod covers (not for the earlier version) and add blanking patches. Make front guard irons as for the tender rear. Cut away the smokebox door hand rail and make a new one from wire or plastic rod. Sandbox fillers are paper punchings glued on the footplate (flush on the real loco). Tender rear is also shown.*

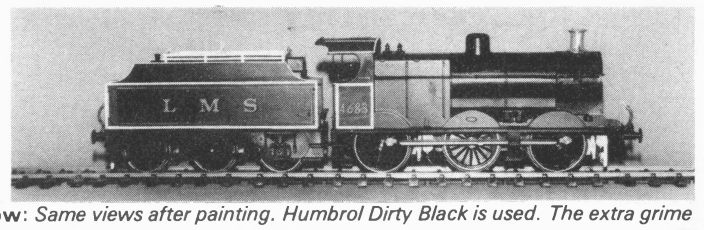


Above: *Here the brake shoes are glued in place – take care to clear the wheel rims and side rod. The centre pair is omitted (for economy in this case) as from a normal viewpoint the foot step obscures them in any case. But add them if you wish. Use Bambi staple for handrail above foot step.*

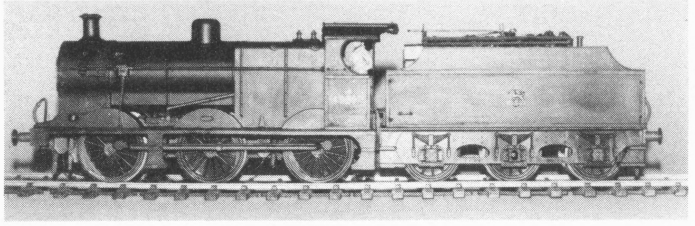


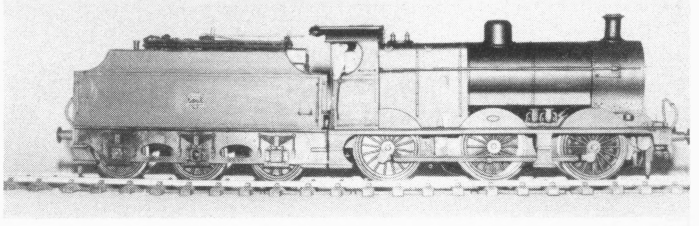
Above: *Top view shows sand box filler caps. Note boiler mould line rubbed down. Here extra scrap weight is added inside the chassis forward of front axle, behind centre and rear axles, taking care to clear the axles and motor, etc.*



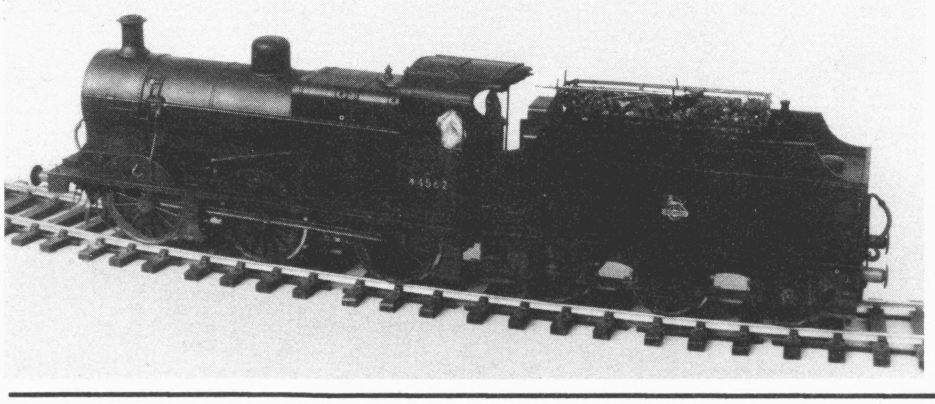


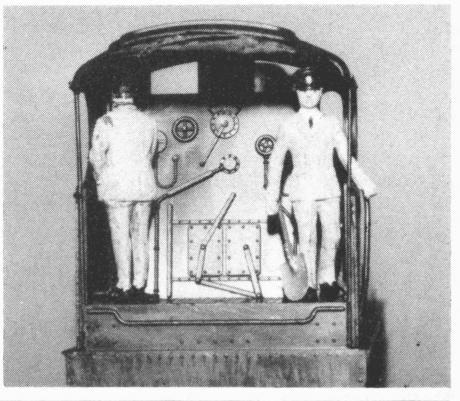
Above: *Two views show left and right sides on model before painting.* **Below**: *Same views after painting. Humbrol Dirty Black is used. The extra grime is applied with a little dry brushing of Gloy Underframe Dirt colour and whitish-grey.*





Below, left: *Another view of the model. Coal is added to the tender top as are fire irons and a shovel. The numbers used here are from 00 sheets and are slightly too small – they will be replaced later with scale size numbers. Tender totem is the largest 00 size.* **Below, right**: *Meet the crew – two old plastic figures chopped about a bit. Note the fireman is just resting his washdown hose over the cab side – an item often seen but rarely modelled. Old bell wire was used for this on the model. Rolled up weather screen (from kitchen paper) is glued under the rear of the roof.*





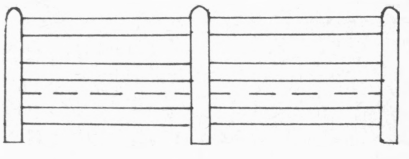
Cattle dock

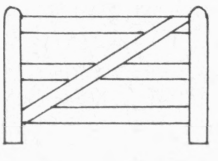
from page 307

a gully for drainage in the centre of the pen. It was quite usual, also, though by no means always done, to have the rails alongside the loading bank also set into cobbles or concrete to facilitate cleaning. The fencing should be painted and weathered to a timber-like hue, and the floor finished off. Embossed plastic card paving blocks or cobbles are produced by Slaters while Faller have ready-coloured embossed card sheets of cobbles and paving setts which you might prefer to use for the floor.

Add some cattle or sheep, and there are suitable ones available in various scales. If sheep are handled, however, you'll need to add a lower rail of plastic rod to the pens, depicting the iron bar often seen in real life in such pens. On market days your pen might be crowded, with farmer's vans bringing in or collecting animals or, in a truly rural setting, a small herd might be driven along the lane to the station yard by the herdsman and his dog. You'll need some suitable human figures anyway.

If your traffic demands it, more pens can be readily fabricated, joining them up to whatever length is required and the loading bank and siding can be lengthened to suit. On a busy market day you'll need water, brushes, fodder, hoses, brooms and other equipment in evidence. The cattle dock siding (or sidings) of a big market town might also have a small wooden office where the clerk from the local cattle auction firm would do his paperwork, and there might even be a small mess hut for the herdsmen in attendance at the pens.





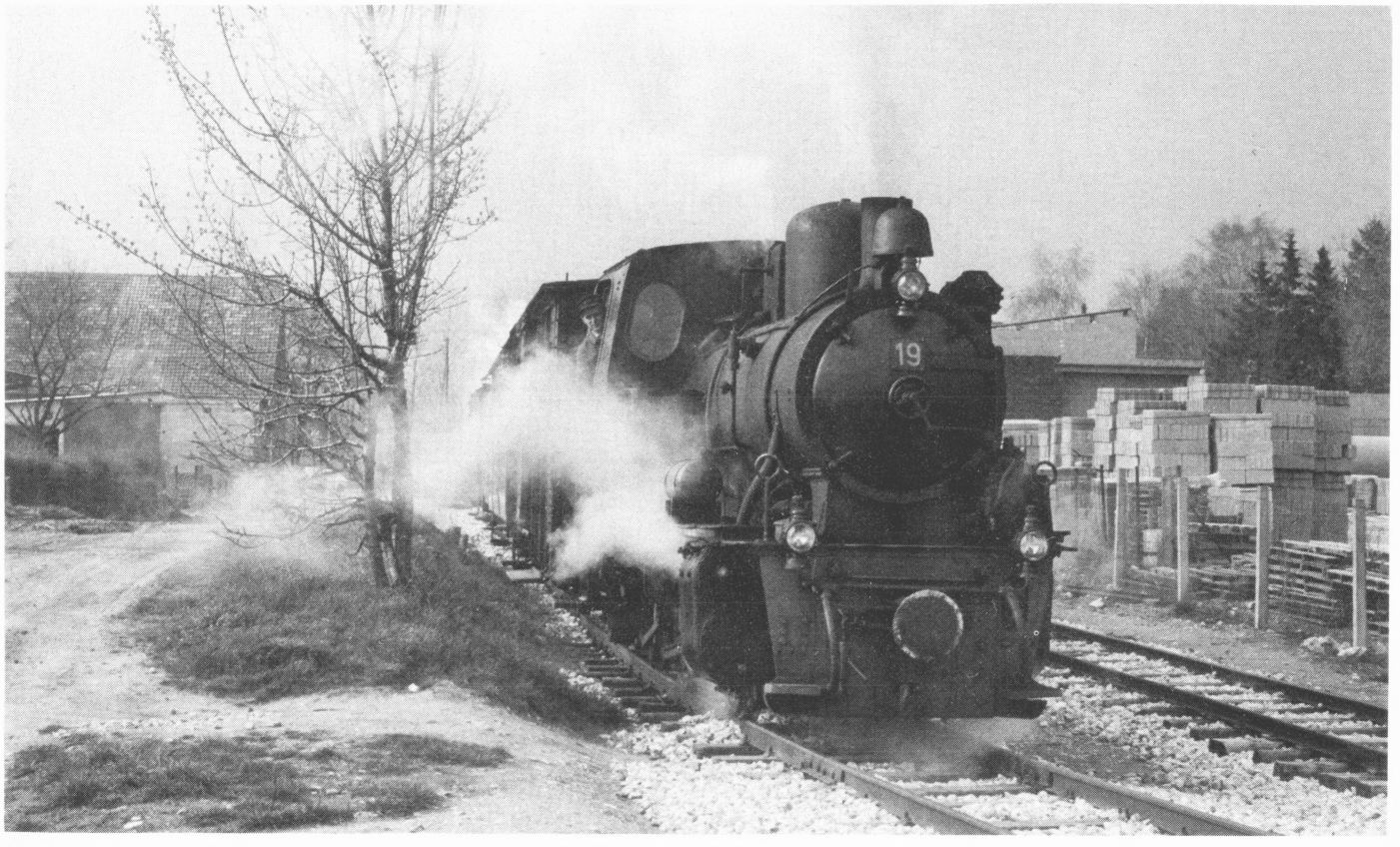
Above: *Standard section for width. Sheep bar dotted.* **Left**: *Single section gate. Cut single panel (above) in half, add posts and diagonals from Microstrip for double gates to match this width.*

The Geilenkirchener Kreisbahn

Basis for a layout

Richard Gardner describes a German cross country line suitable for standard or narrow gauge modelling

Photos and Drawings by Author.



Leaving Birgden past the goods yard now used for storing building items. Track plan on page 316 shows the siding restored to the goods yard, and this picture suggests a building supply yard as a very good source of freight revenue on a layout based on this line.

The Geilenkirchener Kreisbahn (GKB) was a 34 kilometre, metre-gauge line linking up a number of local communities in a corner of Germany close to the Dutch border. It was a particularly charming little railway which although it could not compete with the spectacular lines in mountain regions, nevertheless, managed to retain an individual character in its lowland environment. It was the epitome of the 'cabbage trail' railway with the track running on an embankment and over girder bridges one moment and then sneaking through the back yards of tiny villages and across fields the next.

The GKB ceased to exist as a private railway operating passenger and goods services many years ago. The scheduled passenger trains ended in 1953 although goods trains ran to serve the farming areas and a number of small works up until the late 1960s. About the same time the IHS, an association of transport enthusiasts, were looking for a suitable railway on which to run steam and other historical railway trains in much the same way as many British private lines are operated.

By 1970 the rolling stock of the GKB had rotted away or been sold off and so a plan was devised to bring back interesting coaches, wagons and locos from all over Germany and beyond. Some items had to be converted to run on the Schmalspurbahn, including a 900mm gauge Jung steam loco from Hutte steelworks.

Today there is a section of the former GKB running again in the summer months – it is now known as the Selfkantbahn and comprises the 11kms of the route running through the Selfkant region right next to Holland. The maps show both the original cross-country GKB line and the remaining preserved section between Schierwaldenrath and Gillrath.

For anyone wishing to build a model of a small cross-country European railway the GKB would seem in many ways ideal. I have

Coaling up at the beet platform. Notice the bell above the lamp – used for warning traffic on the many ungated crossings along the route.

included two possible layouts, one a simple L-shaped end-to-end branch based on the Selfkantbahn, and the other a more ambitious continuous layout featuring Geilenkirchen's exchange facilities between standard and narrow gauge tracks.

You could, of course, build a model of the smaller stations using standard track in place of the narrow gauge. The stations and general scheme would be virtually identical because many European branches are run on narrow gauge principals. The un-connected siding at the Western end of Schierwaldenrath currently serves to hold old vehicles awaiting restoration. As it is hoped to extend the line to Gangelt in the future this siding would be re-connected. You could delete it if you are not specifically modelling this actual line.

Looking west with old tram coaches awaiting conversion. This siding is unconnected at present.

Stock

To operate the small line as a standard gauge railway there is a vast range of suitable locomotives and rolling stock. The Class 80 0-6-0 with a suitable diesel centre-cab shunter could be the sole motive-power. Diesel railcars or a railbus could be put to use on local trains as an alternative to tank locos with four or six-wheel coaches. A glance at the Piko, Roco and Fleischmann lists will show several engines and more rolling stock than you would ever be able to use at once.

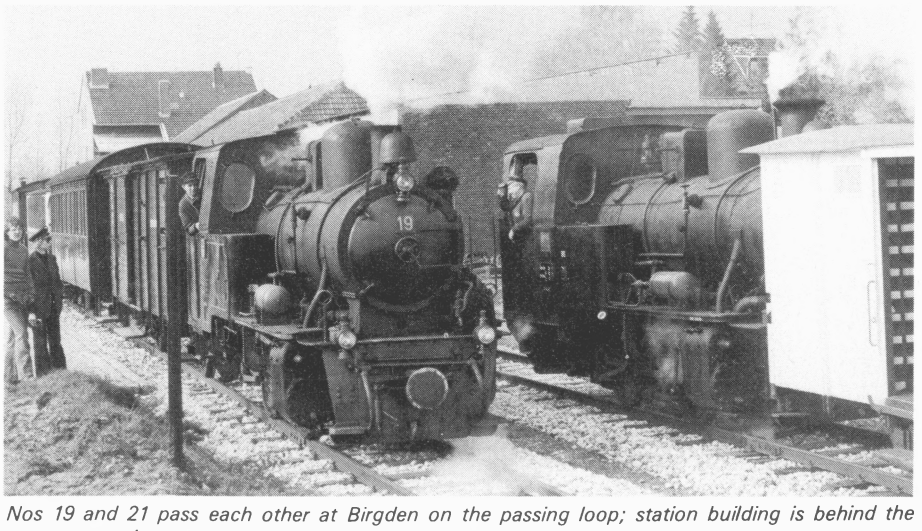
To model the small Selfkantbahn in the correct 1000mm gauge is now quite painless thanks to Bemo. In the Bemo catalogue you will find typical goods and passenger coaches all available in scale 1000mm gauge. In addition, the superb little Bemo SWEG 0-6-0 tank loco is sold in kit form and looks remarkably like the locos in use on the actual line, apart from the fact that they should really be of the 0-4-0 type.

Bemo also produce a ready-to-run 1000mm gauge Bo-Bo diesel which would be just the job for operating the goods or passenger trains. The detail on this loco has to be seen to be believed and the performance matches the good looks. It is a little pricey at about £38 but is a collector's piece and you have to pay for real quality.

The 1000mm track from Bemo includes flexible lengths as well as points and fixed straight and curved sections. It is in fact, 12mm gauge – the same as TT and would be worth using for any TT layout as it is so good.

If you have the room to build the second layout which is broadly based on Geilenkirchen you could have the best of both worlds with the aid of the fascinating Rollblock convertors. These little bogies fit under the axles of the standard gauge wagons and enable them to run over the 1000mm system. Bemo produce all the essential components needed for reproducing the change-over yard and the actual trains. There is a special piece of track which allows the standard gauge wagons to be shunted over the axles and then a small rail ramp lowers them on to the waiting bogies. The bogies don't join up into trains for the standard gauge wagons use their own couplings in conjunction with 'convertor vans' – narrow gauge vans with two sets of buffers and couplings to take both types of stock. The sight of a narrow-gauge train including a couple of outsize standard wagons on roll-blocks is very familiar on the continent though seldom modelled. It would add considerable interest to any layout in HO scale.

The main DB line from Aachen to Rheydt is electrified and so generous storage sidings have been provided to accommodate a big selection of standard gauge trains. Through trains of Dutch coaches could be seen alongside the more usual beige/blue and silver DB coaching stock. Roco provide all the modern electric locos needed and virtually all the goods stock.

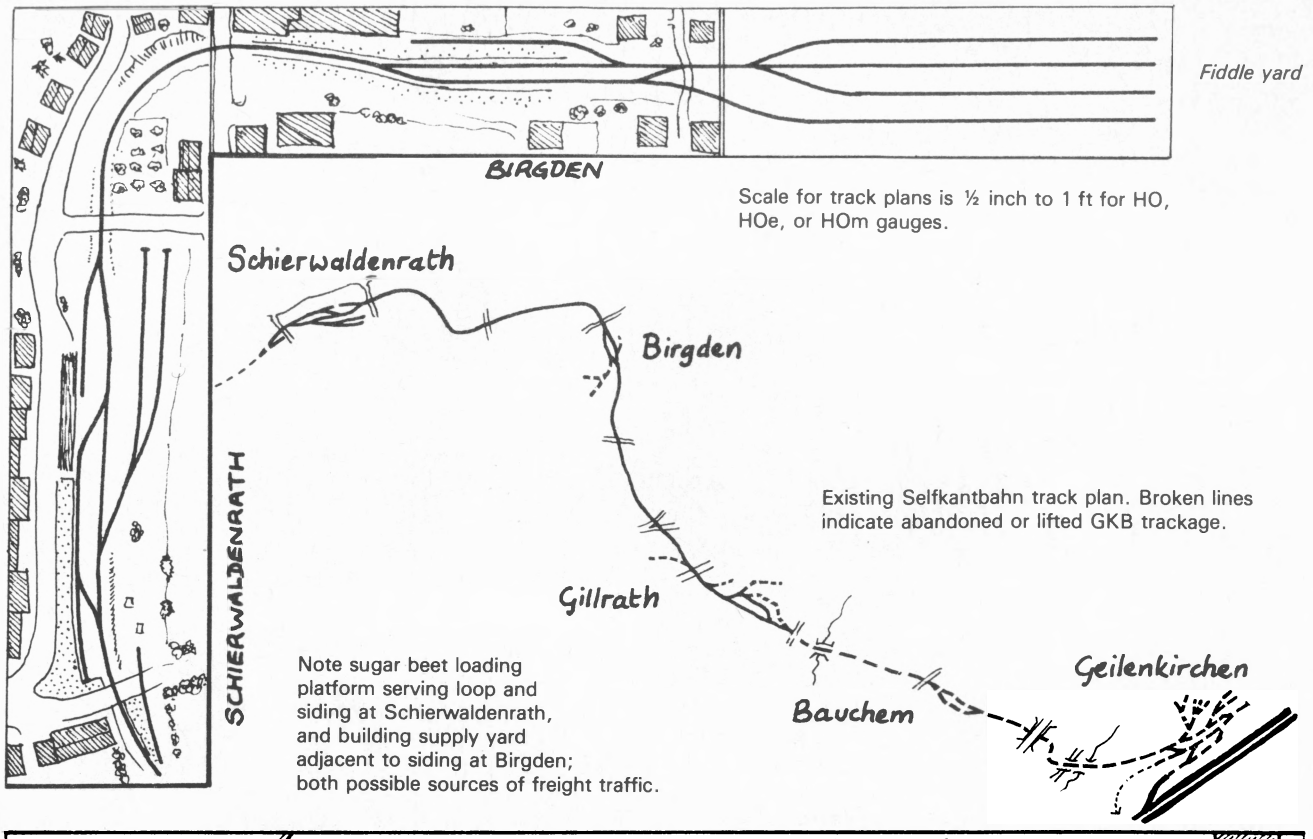


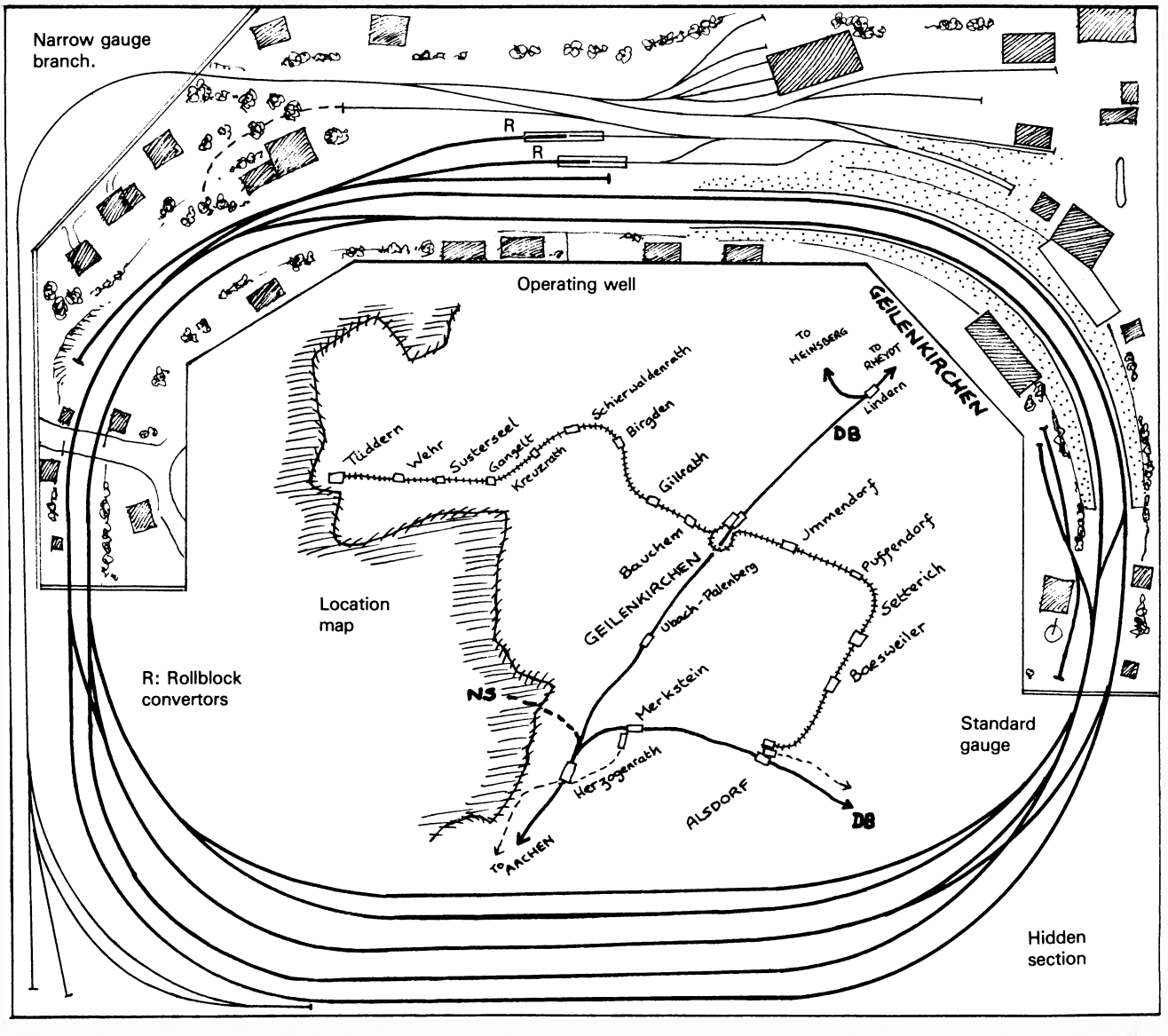
Nos 19 and 21 pass each other at Birgden on the passing loop; station building is behind the passenger train.

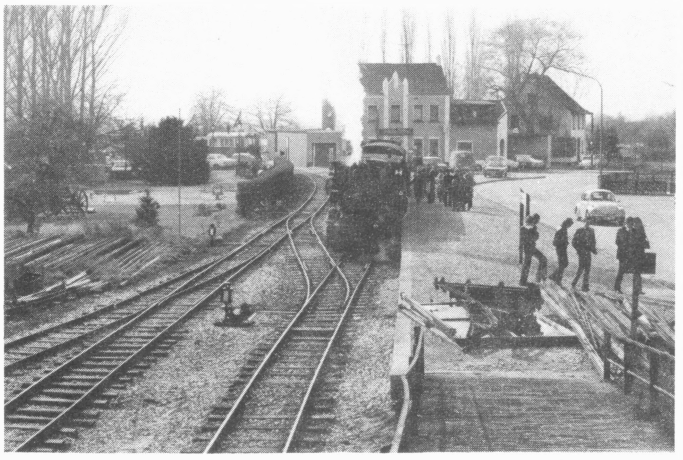
With wheels screeching, whistle blowing, bell ringing and the guard holding up the road traffic, No 19 comes round the curve into Birgden over an unprotected rail-road crossing.

Scenery

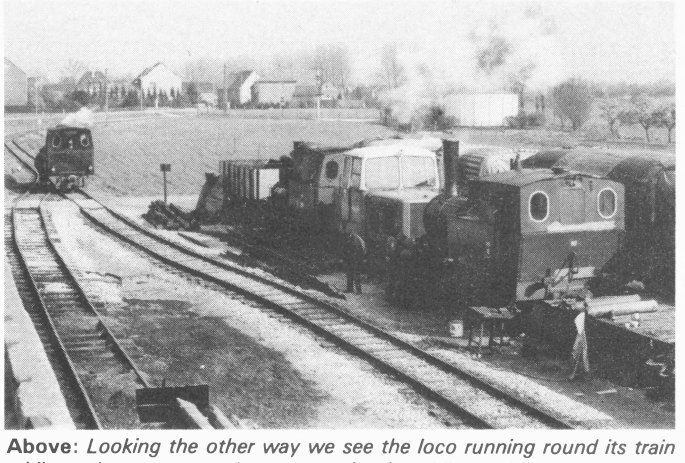
The countryside in this part of Germany is very flat and most buildings are of the brick type, with plenty of plain sided, plastered and painted houses and a few houses and pubs with (often false) half-timbering effects. The continental kits provide plenty of suitable structures.


Fiddle yard
BIRGDEN
Scale for track plans is ½ inch to 1 ft for HO, HOe, or HOm gauges.
Schierwaldenrath
Birgden
SCHIERWALDENRATH
Existing Selfkantbahn track plan. Broken lines indicate abandoned or lifted GKB trackage.
Gillrath
Geilenkirchen
Bauchem
Note sugar beet loading platform serving loop and siding at Schierwaldenrath, and building supply yard adjacent to siding at Birgden; both possible sources of freight traffic.

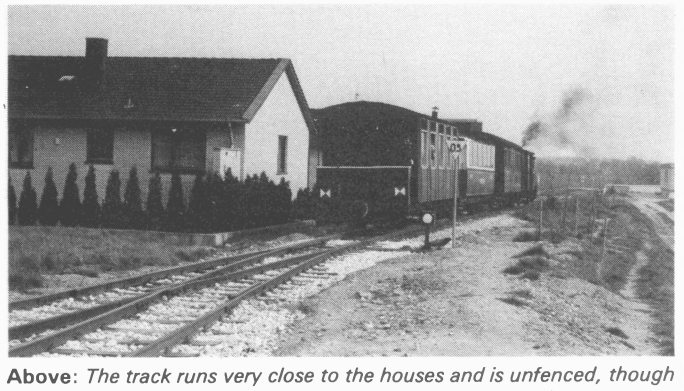

Narrow gauge branch.
R
R
Operating well
GEILENKIRCHEN
TO HEINSBERG
TO RHEYDT
Lindern
DB
Schierwaldenrath
Birgden
Gillrath
Tüddern
Wehr
Susterseel
Gangelt
Kreuzrath
Jmmendorf
Puffendorf
Setterich
Baesweiler
Bauchem
GEILENKIRCHEN
Ubach-Palenberg
Merkstein
Herzogenrath
ALSDORF
DB
TO AACHEN
NS
Location map
R: Rollblock convertors
Standard gauge
Hidden section



Above: *Tremendous modelling possibilities are suggested by this view. The platform is a gravel covered section by the roadside, with just a nameboard. Tickets are sold in the pub opposite which also provides the car park. Foreground is the ramp to the high sugar beet loading platform. The simple track layout here lends itself to a wall and a corner site and is typical for either a standard or narrow gauge branch.*



Above: *Looking the other way we see the loco running round its train while maintenance work goes on in the siding. The 'prototype for everything' department has been at work here inserting a straight track section in front of the left hand arm of the turnout instead of a transitional curve!*



Above: *The track runs very close to the houses and is unfenced, though young trees at right will later shelter the track. Note conductor on rear platform.* **Below:** *The sugar beet loading ramp is visible beyond the train, seen from the crossing at Schierwaldenrath. Note constructional form of the rail-road crossing signs, and the assorted coaches.*

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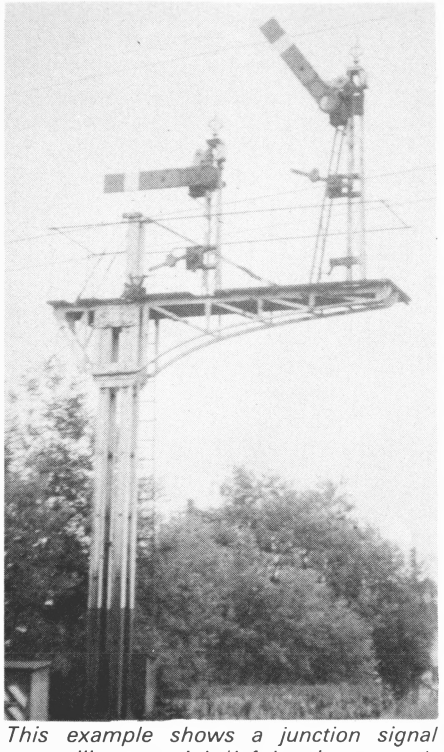
Basic Signalling: 6

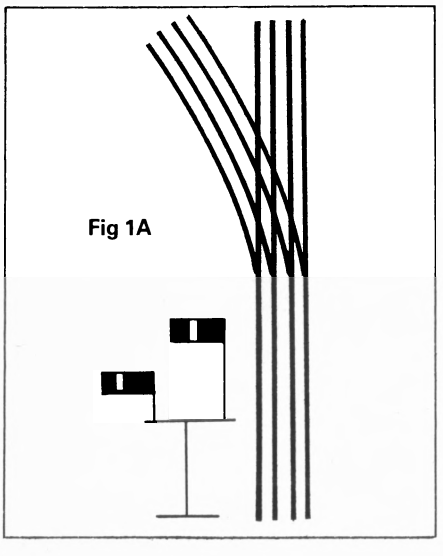
Dave Larkin considers junctions



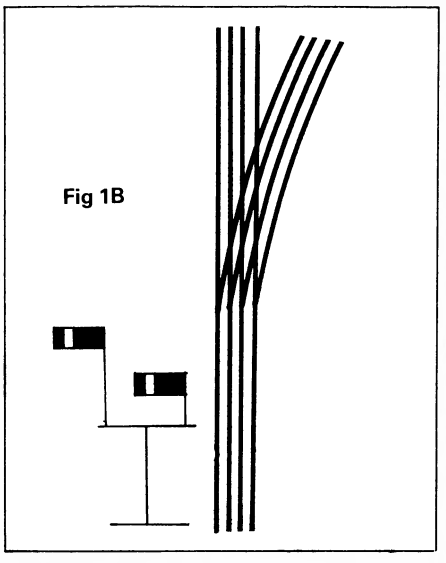
This example shows a junction signal controlling a straight/left-hand curve route junction. Due to sighting difficulties, a right-hand bracket signals has been provided.

So far in this series we have looked at the correct methods of signalling for a single pair of lines in each direction for through running, with a look at the signals for controlling shunting movements and sidings. We will now look at multiple-route signalling and, in this particular part of this series, facing junctions.

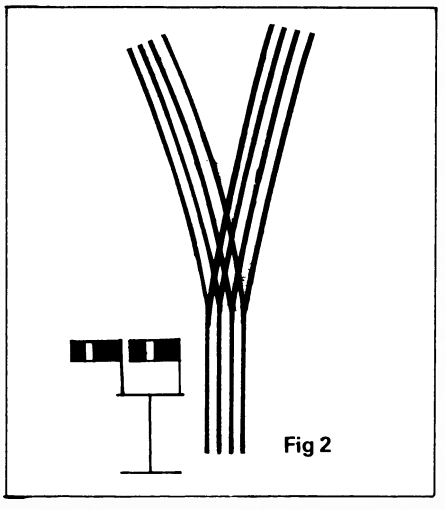
A junction is a place where a railway route splits into two and a 'facing junction' is presented to trains approaching such a divergence. The driver of such a train, must, therefore, be told, by signals, which route he has been signalled to and therefore a junction signal is provided.



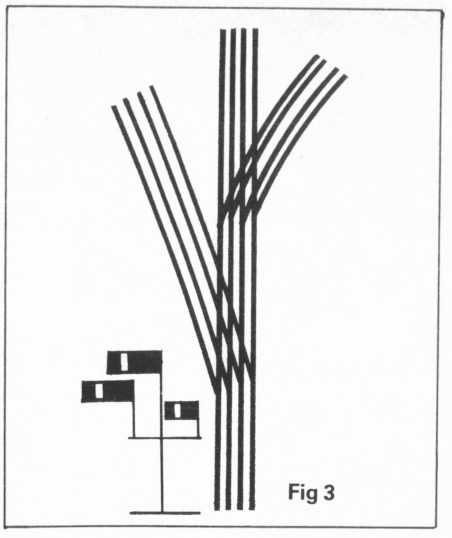
In most cases, the actual points of the junction have one straight line and one curved. The signal therefore is so arranged to reflect this by placing the arms at different heights. The arm controlling the straight route is higher than that controlling the curved route. Figs 1A and 1B demonstrate.



Where the junction is a 'Y' rather than a straight/curved, the signal arms are placed at equal heights, as in Fig 2. Where there is more than one junction controlled by the same box, extra arms are added but, in most circumstances, one box would control two junctions, thus making it necessary to provide three arms, as in Fig 3 and photo 5. Any further junctions would be covered by an additional signal box.



What constitutes a junction requiring a junction signal? It can be any splitting of railway routes over which trains are expected to run at normal speeds rather than merely shunting movements. Normal divergences of



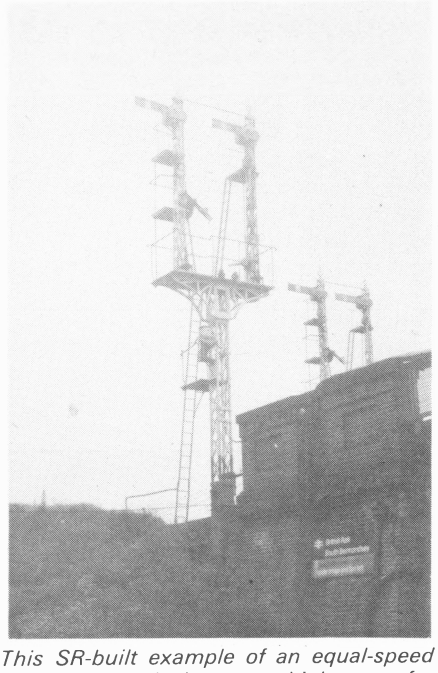
the railway networks, of course, qualify but junction signals are also provided at the entrance to goods loops, goods yards and at stations with island platforms. Thus the single-post signals, with goods arms at low level, that we looked at in Part 3 of this series are technically junctions.

So far, we have only studied the stop signals protecting the 'facing junction'. What of distant signals? In part 2 of this series, we noted that the Distant signal is provided to let the driver know whether or not the line is clear right through the area of the signal box ahead. Now it was originally the practice to provide junctions with distant arms compatible with the junction ahead (ie a two-route junction would have a two-route distant). These were called 'Splitting Distants' and were needed to give a train driver the chance to stop his train if the distant indicated that he had been routed the wrong way at the junction. However, as train braking improved this became unnecessary in cases where the driver's visibility of the junction signals

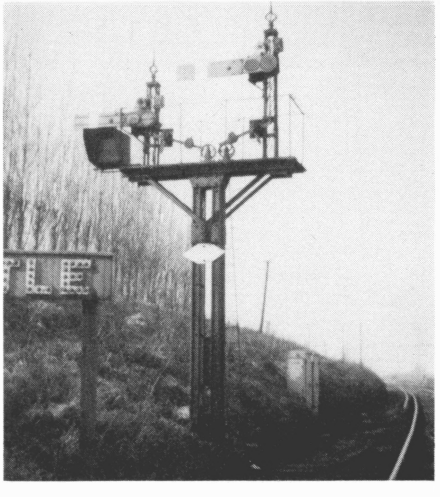
This tall, NER-built signal controls a 'Y' junction, the left-hand route of which is a goods yard and therefore provided with a good arm.

was sufficient to allow him to stop his train if it had been wrongly routed and most Splitting Distants were replaced by single-post Distants which could be cleared whenever one of the junction Stop arms (and, of course, all other necessary signals for that route) was 'off'. The Splitting Distants could become Section Signals in complicated areas and photo 6 shows such an example.

The Junction Signal itself could carry Distant arms if it was the Section Signal. Photo 7 shows an example where only one route's Stop arm is also the Section Signal, whilst, in photo 8, both the routes are Section Signals. Some junction signal posts were also used as convenient mounting posts for shunt signals, as in photo 5.



This SR-built example of an equal-speed junction signals has extra-high arms for sighting purposes and a shunt signal half-way up the main post. Located at Bricklayers Arms, London SE.



Also SR-built, this junction signal serves a dual function, as, due to the curve of the line, a right-hand bracket signal would have been provided. The left-hand route is the entrance to a marshalling yard and an electric route indicator has been provided. Taken at Hoo Junction, Kent.

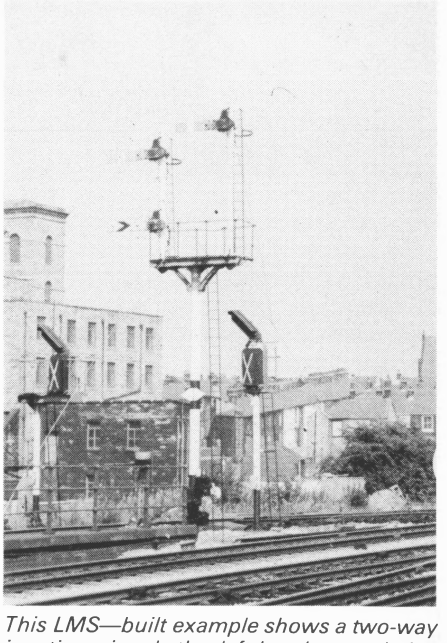
Junction signals are subject to all the various factors noted in previous parts of this series and there are, therefore, bracketed junction signals, tall or short junction signals, co-acting repeating junction signals and banner repeaters for junction signals.

Finally, you will note that I have only included the signals controlling the junction from the facing direction in the first four sketches. If you have understood what I wrote in Parts 1 and 2, you should be able to place the Stop and Distant signals necessary for the opposite or 'trailing' direction without my help! However, Fig 4 shows a simple junction without the complications of section signals or sidings, etc. In the next article, we will look at multi-purpose signals and gantries. ***(Fig 4 over page)***

This LMS-type signal depicts a Section Signal in rear of a two-way junction, the right-hand route being curved. Taken at Burnley, Lancs.

Right: *This final LMS-built example shows a bracketed two-way junction signal, the left-hand route being curved and both arms acting as Section Signals for their respective routes. Behind this can be seen another junction signal covering the same junction but from the other side of the platform and without the sighting difficulties requiring a bracket signal. Taken at Bury (Bolton Street), Lancs.*

At the other end of Hoo Junction, there is a three-way junction, the right-hand arm controlling entrance to the yard. As shunting movements are frequent, a shunt signal has also been provided.



This LMS—built example shows a two-way junction signal, the left-hand route being curved and the arm being the Section Signal for that route. Taken at Burnley, Lancs.

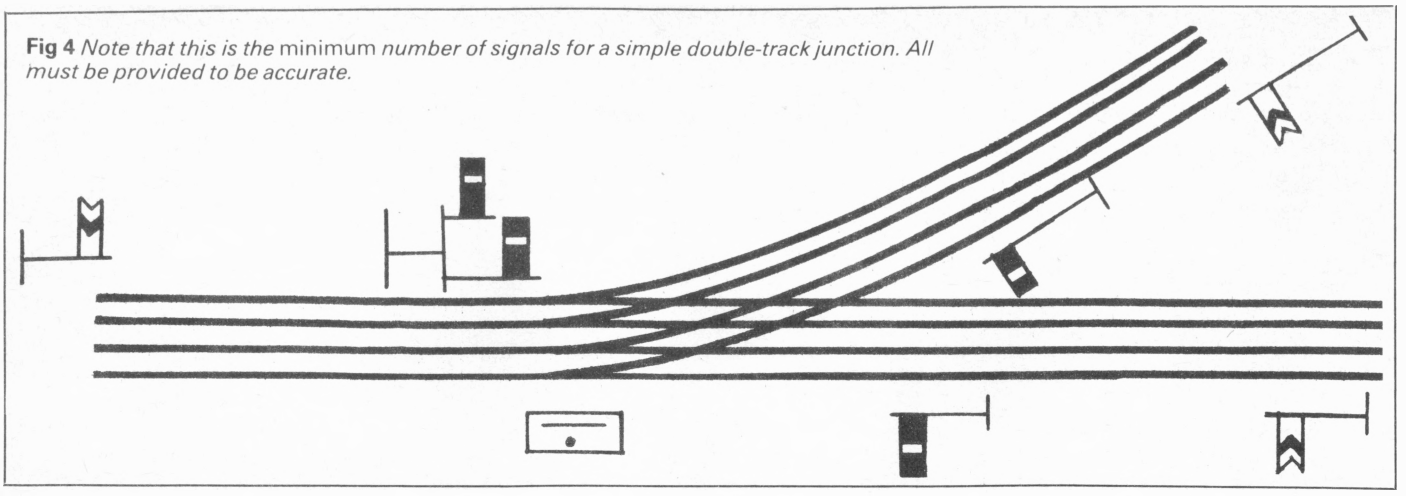


Fig 4 *Note that this is the* minimum *number of signals for a simple double-track junction. All must be provided to be accurate.*

Model Baby Colletts Galore

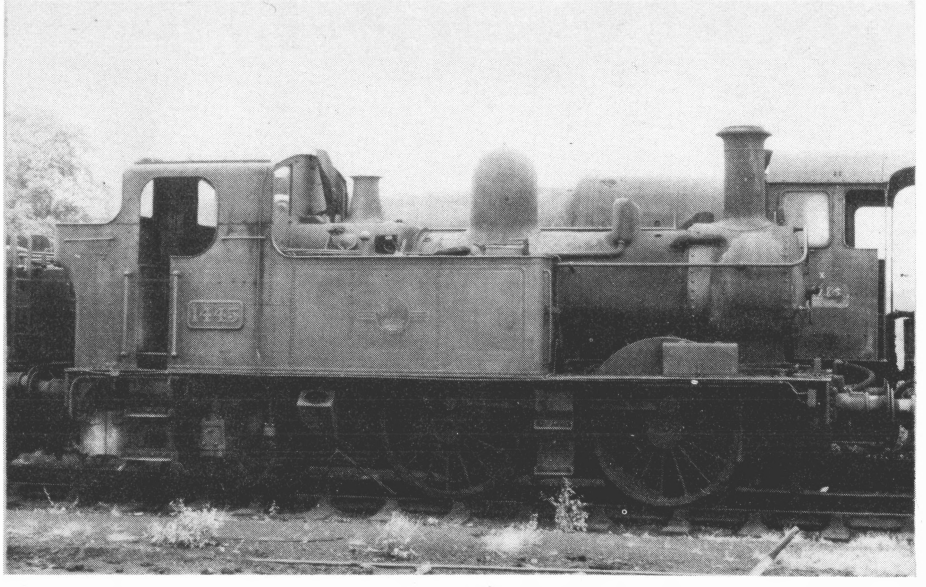
Extra Conversion Details by Colin Withey.

Photos from Chris Ellis, except where credited

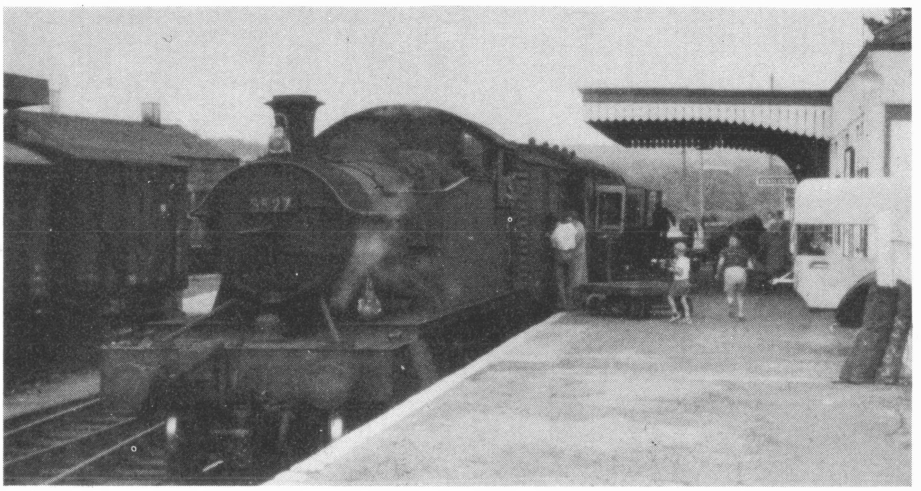
In his article on converting the Airfix-GMR 14XX into a 58XX (February 1981, *Model Trains*), Chris Ellis made reference to the fitting or otherwise of top-feed equipment and to the toolbox positions. If you delight in modelling Collett's 0-4-2 tanks then from photographic evidence I can find at least twelve variations that can be produced from the Airfix model or K's kit in 00 gauge, Gem's kit in TT gauge or Langley's kit in N gauge.

To vary the Airfix model, follow Chris Ellis's article to remove the top-feed to produce the NF (no feed) version (see table) and to re-position the toolbox to the front left (to the front of splasher on the left of the smokebox when seen from the front) and front right (front of splasher on right of smokebox, or to remove the appropriate toolbox (RL/RR). Finally, to affix the appropriate number plates (N) I have used both Bostik and Evo-stick with success. We are fortunate in having manufacturers who can supply cabside and smokebox door number plates, namely Kings Cross Plates, 14 York Way, London, N1 9AA, and Jackson-Evans, 4 Dartmouth Road, Coventry.

One is always recommended to model a prototype from photographs of the actual locomotive and despite the list, this still remains necessary to determine the livery style. The following is drawn from photographs of locomotives in service with British Railways and therefore is not necessarily correct for their previous Great Western detail. The variations are based on the Airfix/GMR model of British Railways 1466. The numbers in brackets indicate that in the BR era more than one combination has been sighted.



Above: *Faded BR green livery on 1445 with top-feed to boiler and control box on front buffer beam. Toolbox in forward position. Wire lead on cab side.*



Above: *Small Prairie 5527 is auto-fitted with control box on front buffer beam, though when pictured appears to be hauling a B set and a box van.*

Variations	Locomotive Number
N	1411/71(2)
FL–FR	1466
N–FL	1429/57(2)/71(3)
N–FR	1415(2)/20/21(2)/27/39(2)/42/47/48/68
N–NF	1437(1)/57(1)/71(1) 5805/07
N–RL–FR	1463(2)
N–FL–FR	1400/05/10/15(1)/24/32/34/37(2)/45/46/49 1451(2)/55(2)/62/70 5804/15
N–NF–FR	1412(2)/38(2)/43/50/53(2)/64 5813(2)
N–NF–FL–FR	1401/02/03/06/07/12(L)/14/19/21(1)/26 1436/38(1)/39(1)/40/44/51(1)/53(1)/54 1455(1)/61/63(1)/65/67/72/73 5801/02/03/06/13(1)/16/18

Key

N – numberplate
NF – No feed
FR – front right
FL – front left
RL – remove left
RR – remove right

Right: *The classic GWR branch and secondary line scene at Cashes Green Halt as 1440 pushes away after dropping shoppers with prams. Except for forward-mounted toolboxes, the loco is exactly as provided by Airfix-GMR in its BR form. Wood platform and corrugated iron shelters would make a good model.*

Photographs exist of other locos in these classes but I have avoided making calculated guesses of the position of the unseen toolbox in the interest of accuracy. Other locos seen are 1408 (TF), 1422 (NF), 1433 (TF), 1441 (TF), 1456 (TF), 1469 (NF), 1474 (NF) and 5819 (NF). TF of course stands for being fitted with top-feed equipment.

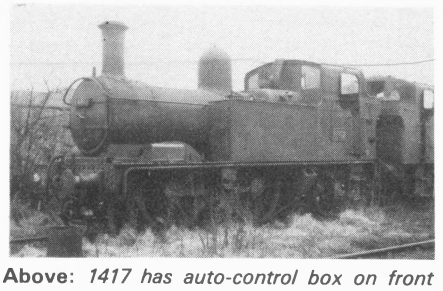
Southern Region modellers will be pleased to know that 1442 and 1450 worked certain of the South Devon branches from 1963 to 1965 with Hawksworth Auto Trailers.

BR's Auto-Fitted Small Prairies

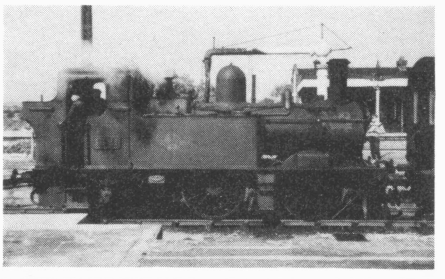
From the numberplate manufacturers mentioned in the above article can be obtained plates for the Lima model and K's kit of the 4575/55XX class in 00 gauge. A variation can easily be made to these so that they become 'auto-fitted'. British Railways actually did this to certain of these prototypes in 1952 and formed part of the accelerated train services in the South Wales valleys in the following year. The most significant feature seen is the box on the buffer beam in just the same manner as with the 14XX. Each box can be cut from balsa wood, card or plastic card to give a width of 3mm, height of 2mm and a depth of 1mm. On the Welsh service 'Small Prairies' 4589, 5511/24/29/34/45/55/59/60/68/72 usually handled two auto-trailers. At peaks, two, two-car auto-trailer sets were common often one set at either end of the locomotive. When DMUs replaced steam on the Valley services several found their way to Devon and Cornwall.

So apart from being a powerful 4MT branch loco, it makes a good standby for the 1P 14XX for working the Airfix-GMR model W187W auto-trailer.

Right: *1421 appears to be exactly like the Airfix-GMR model, lined BR green, centred toolboxes, and top-feed, while working the Culm Valley branch in 1963 (J. Bryan Hicks).*



Above: *1417 has auto-control box on front buffer beam, appears to be unlined black or green but is very grimy in any case when put aside for withdrawal. One buffer is missing; no top-feed, forward toolboxes.*



Looking very grimy is lined green 1472, with front mounted auto-control box, forward toolboxes, and no top-feed in 1961 (A.J. North).

Trainlines

LETTERS TO THE EDITOR.

Relics in North Devon

Whilst on holiday in North Devon last year I came across some disused railway buildings which were nevertheless occupied by Express electric motive power and coaches! The engine shed was being used by Express Dairy Co milk floats and the carriage shed by a road motor coach firm, all in Kinglsey Road, Bideford. The sheds were built for the Bideford, Westward Ho! and Appledore Railway which opened in 1901 and closed in 1917 when the track and engines were removed by the Government for the war effort. See the first two photos.

The signal box was found by chance in a back garden at Westward Ho!, a few hundred yards from the site of the railway station, now

a bus station. It is not now on the route of the railway, much of which can still be traced. Third photo shows this.

The Bideford, Westward Ho! and Appledore Railway was a standard gauge line with a street tramway section in Bideford, low platforms elsewhere and three skirted 2-4-2 tank engines. However the surviving buildings would be suitable prototypes for either standard or narrow gauge models. You never know when railway relics may be found so have your camera ready this summer!

A.M. Lawrence, East Grinstead, Sussex

The Southfleet Branch

I have for some years been interested in the Southfleet branch line (March issue) and may be able to add a few details to Mr Larkins' most interesting article.

The reason for the strange bridge arrangement over the A2 is in fact quite straightforward. The branch line was double tracked throughout from the time of opening on May 10, 1886, until the line was singled in 1959. The original bridge, is *furthest* from Southfleet and therefore double tracked, whereas the newer bridge *nearer* Southfleet was installed after singling and was therefore only single tracked.

I think it is rather misleading to call Southfleet *the* intermediate station on this branch as there were in all three intermediate stations namely; Longfield Halt (opened 1913), Southfleet and Springhead Station and finally Rosherville (closed July 19, 1933).

Regular passenger closure came on August 3, 1953, although the last passenger train ran on August 1, 1953. A daily goods train service continued until August 14, 1967, after which working was by special arrangement only until closure on March 26, 1968. The very last passenger train over the branch was the 'Invicta' rail tour on March 3, 1968.

The possibilities for this branch as a basis for a layout are, as pointed out by the author, great especially if one goes back to the steam era. The variety of possible trains is enormous as, in addition to normal passenger and goods workings there were (until final closure of the gardens in 1910) excursions to the zoological gardens at Rosherville, troop trains to the military installations in Gravesend, newsprint trains from the paper mills and believe it or not (from 1916 until World War 2) even a daily boat train service to Rotterdam. The latter was occassionally used by the Prince Consort of Holland so there is even an excuse to claim a 'Royal Train'! There can be few more interesting branch lines.

Despite having been relatively ignored for some years there have recently been moves to reopen it as a preserved line using the track that still remains as described in Mr Larkins' article.

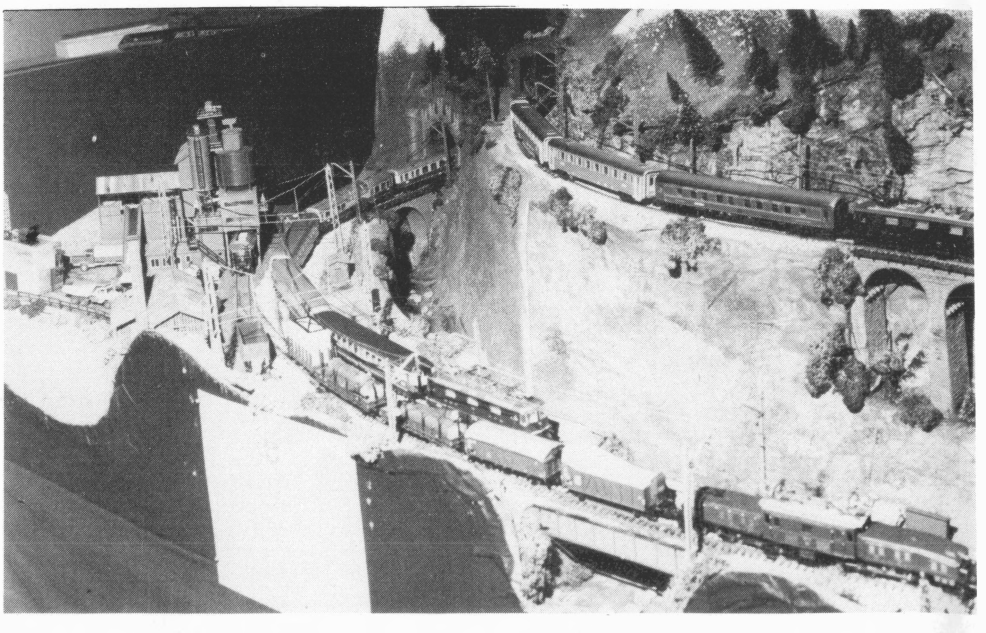
Dr. S. J. Lacey, Stevenage, Herts.

The right period?

As a reader of *Model Trains* since the beginning, I would like to say how much I enjoy it. Having said this I'd like to take issue with a large number of modellers, including contributors to the magazine, who are creating unprototypical models because they are overemphasising the importance of sticking to one historical period and they insist that all items of rolling stock carry the same style of livery. As an instance, Richard Gardner in his article on super-detailing the *Royal Scot* states that a loco with the 1957 style BR insignia would be used with maroon coaches, while for carmine and cream coaches the loco should have the earlier insignia. Unfortunately new liveries appeared over a number of years from their date of introduction, so there is by no means a clear distinction based on date of introduction and younger modellers who depend on the written word might be misled by such statements.

For example, carmine and cream coaches did not all disappear in 1957 but could still be seen at least until 1963. And many locos withdrawn in the 1960s still had the early BR insignia (and in a few cases still had pre-nationalisation livery). When BR introduced blue for locos and blue/grey for coaches it was many years before green locos and maroon coaches finally disappeared. In the 1950s the assortment both of coaching types and liveries was quite considerable, particularly on summer Saturdays when reserve coaches were pressed into service. In 1961 I rode a train between Bristol and Stratford-on-Avon where chocolate and cream, maroon,

Following the article on Crocodiles in the April issue, one of our readers (who forgot to give his name – please contact us!) sent this view of part of his Swiss style layout. Visible here is one of two Märklin models of the Swiss Be 6/8 II type running on the layout. They are over 20 years old, were converted from AC to DC on purchase and have been in continuous use over this period without being touched or needing any kind of repair – certainly living up to both Märklin's reputation and the reputation of the real Crocodiles! Original price was £13 17s 6d or £16 10s if fitted with Telex remote uncouplers. The models can pull 42 old style Hamo metal coaches at half-wave and regularly haul 60 wagon freight trains and 20 coach passenger trains. Weight of each of the models is 34oz. The newer Be 6/8 III from Hamo and the Roco Crocodile also run on the layout but cannot haul as much as these old Märklin examples. The other locos shown in the picture are a Re 4/4 and a Ae 6/6 on the upper level.



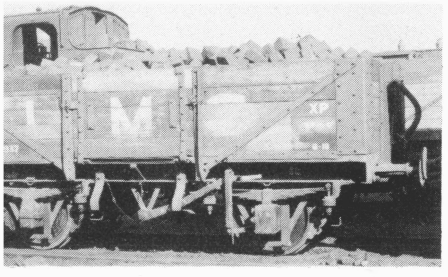
carmine and cream, one green, and one faded GWR chocolate and cream example were to be found among the coaches. In the 1923-47 period there was even more in the way of mixes of livery and markings.

My message is, therefore, that we are all too often guilty of being too rigid in our approach. Real railways were not always perfectly uniform in use of stock or liveries and this can be reflected in our modelling – it adds to the interest too.

Finally on signalling. It was stated in an article last year that upper and lower quadrant signals should not be mixed on a layout. In reality many ex-GWR lines were partly re-signalled by other regions and have a mix of signal types, as do other lines re-signalled by BR(W). Three types of signalling can be seen at Bearley Junction – GWR lower quadrant travelling from Stratford, upper quadrant (re-signalled by LMR) in the opposite direction, and 2-light colour light travelling from the Malton direction.

M. A. Young, Chelmsley Wood, Birmingham

Quite right Mr. Young. It is not advisable to be too dogmatic, as there are all sorts of surprises. I recall several pannier tanks still running with GWR lettering as late as 1963-64 (one at Old Oak Common) and who would have expected to find concrete sleepers at sleepy little Killin back in 1958? You might be inclined to dismiss a modeller's layout as wrong if it featured such a thing in a 1950s setting! It is more important not to get later styles in a too-early setting – blue/grey coaches in early 1960s for example. As a reminder of what can be done here is a pic-



ture from Dave Larkins' files showing a 13-ton LMS standard open (fitted) wagon built in 1934 (diagram 1892) pictured in the early 1960s still in its original pre-1938 LMS style livery but with BR style numbering – a good example of how you can mix styles and periods in a realistic and believable way.

Editor

On trams

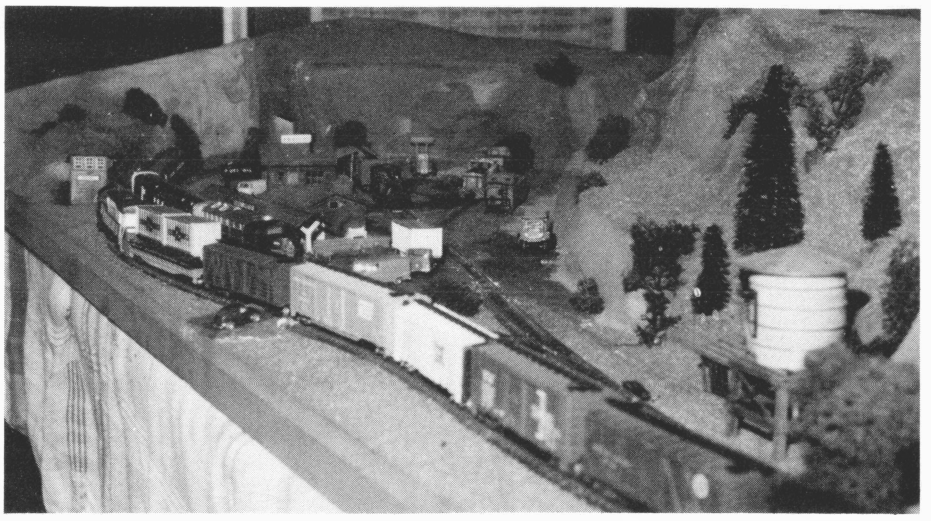
I was very interested to see how well you covered the subject of trams and tramway modelling in the March issue of your excellent magazine. As you rightly point out, tramway modelling is often neglected or ignored altogether, but your articles showed that the subject is full of interesting possibilities.

One or two comments, though – the Roco Düwag tram is not a power car plus trailer, but a single-ended articulated car requiring a reversing loop at each end of the route. You also failed to mention that some German cities are, in fact, putting many of their central area tram routes into subways and/or converting the system into a 'Stadtbahn', which is not quite the same as the traditional street tramway, being almost entirely on railway-type reserved track with (sometimes) proper stations with platforms. The amount of actual street running is decreasing year by year, as any issue of *Modern Tramway* will show.

Nevertheless, much street running remains, and one of the best countries in which to see this in action is Belgium, easily reached from Dover via the port of Ostende. Apart from the well-known coastal light railway from De Panne to Knokke, there are extensive tramways in Brussels (which has a Metro, or underground railway, as well as tram subways and miles of street track and central reservation), Antwerpen (where subways are now appearing), Ghent and Charleroi. My own personal favourite system is that of Ghent, only about 40 minutes by train from Ostende and a feasible proposition for a day trip, where 59 modern double-ended PCC cars serve a metre gauge system of four long, busy urban routes, most of which runs in the middle of the street in the time-honoured fashion. It is quite amazing to see how well the fast, comfortable trams sweep majestically through the swarms of rush-hour traffic in the city centre! Ghent itself is a most interesting old city, and the smart blue and primrose trams add a fine splash of colour to the scene.

Again, thank you for a most interesting and useful set of articles – I hope to be able to use one of your 'pocket-handkerchief' layout suggestions.

I. C. Jeffery, Tonbridge, Kent.



Amazing what you can do in 3ft x 2ft. This is the layout described in the letter below and built by M. Harris of Reading based on the 'Build it in N Scale' series which ran in this magazine last year from the January to September issues. The track layout follows the plan we gave very closely, but by using different buildings in different relative positions, and different hill shapes, the finished layout looks quite a contrast to our setting with only the track arrangement in common. Traffic pattern is also different as this layout depicts a secondary line rather than a branch, with the main station as the centre of activity. Period is the colourful diesel era of the past 20 years which N gauge makers cater for very well.

Showman's caravans

With regard to 'Roadscene' in the April issue, might I point out that Showman's caravans of the type mentioned are still in regular use by Showmen in the north west, and a visit to local wakes fairs in this area can prove to be of interest to transport enthusiasts, as not only are there a goodly number of old Showman's caravans to be seen (mostly in a very well preserved state), but as often as not the trucks towing them are vintage or interesting. Even mid 1930's waggons are still to be seen along with examples of all the more popular 1950s and early 1960s trucks.

Nev Fadrics, Oldham, Lancs.

They have not disappeared in the south either! **Editor**

Build it in N Gauge

I have taken your *Model Trains* since the first issue. The main interest of the magazine has for me, been the 'Build it in N scale' series last year concentrating as it does on the American Railroader theme.

I have built a layout following your plan for my son to use and although it is not yet finished, he nevertheless runs trains on it as can be seen from the photo. There is still a lot more scenic work to be done. All the rolling stock has been converted to Kadee couplers and this, plus the layout, created a great deal of interest at a local model exhibition, where it was displayed and ran.

I hope that after the end of the article, you will not forsake the American railroaders in Great Britain, as all the other magazines appear to have done. Many thanks for an excellent magazine.

M. Harris, Reading, Berks.

Exhibitions

The Gauge O Guild Silver Jubilee Convention 1981 will be held at the St John's Hotel, Solihull, West Midlands on Saturday 26th September and Sunday 27th September. There will be over 10,000 square feet of layouts, trade stands and members' exhibits. Operating layouts will suit all tastes – fine scale, standard scale and tinplate; from detailed scenic cameos to intensive traffic and continuous running. There will be ample test track facilities for clockwork, steam, electric 2-rail, 3-rail or stud contact. Plus film and slide shows; and Members' exhibits will be encouraged by modelling competitions for scratch-built and kit-built rolling stock.

The Leen Valley Model Railway Club are holding an Exhibition at St John's School, St. Johns Street, Mansfield, Notts, on September 26th and 27th (Sat and Sun) from 10.00am to 6.00pm Adults 40p Children and OAP 25p Family 2 + 2 £1.00.

The Association of Model Railway Clubs, Wales and West of England Ltd will be holding their annual exhibition at the Bristol Exhibition Centre on Friday May 22nd from 15.00 – 21.00; Saturday May 23rd, Sunday May 24th, and Monday May 25th from 10.00 – 19.00. Adults: £1.20, Children: 60p. Family tickets will be available.

Expo-Rail & Hobbies '81 have an Exhibition at St John's Hotel, Versailles Suite, Warwick Road, Solihull. Friday 22nd May from 6.00pm – 9.00pm; Saturday 23rd from 10.00am to 8.00pm; Sunday 24th from 10.00am to 6.00pm. Adults £1.00, Children and OAPs 60p. Family Party rates. 13 working model railway layouts from Bournemouth, Cheltenham, Grimsby, Leamington Spa, Leicester, Macclesfield, Shrewsbury, Southampton, Swindon, and West Midlands will be displayed, plus other modelling interests.

The Lynton & Barnstaple Railway Association have an exhibition on Saturday October 3rd 1981, at Christ Church Hall, Victoria Road, Erith. There will be working layouts, trade stands, raffle, refreshments, and film shows. Opening times 10.00 – 17.30. Adults 40p, Children 20p. Enquiries: Colin Rainsbury, Erith 41883, or Bill Pryor, Lynton 2381. The association has, to date, raised £1,800, and has now acquired a stretch of original trackbed near Parracombe, along with the signal box, level crossing gates, and parcels office all from Braunton station, and donated by Braunton Parish Council.

Bookshelf

NEW BOOKS FOR MODELLERS.

The West Somerset Railway, *by C.R. Clinker. The Exmoor Press, Dulverton, Somerset.£1.50.*
We featured Watchet as a 'Basis for a Layout' in our January 1980 issue. If you want to read more about this interesting station and harbour, and the whole line from Taunton to Minehead, then this is the book for you. The WSR is a good prototype for modellers if you want to run varied GWR power on a small line. This book has lots of useful pictures and a good informative text. The WSR still runs, of course, and the revival and current operations of the line as a private company are well chronicled.

The End of the Penny Section, *by Graham Stewart. Fontana, Auckland. Aus $3.50. Available from Mail Order Models, 14-29 Marsden, Great Western Highway, Paramatta, NSW, 2150 Australia. Postage extra.*
Here is a book of great interest beyond the Antipodes. *The End of the Penny Section* is a large format paperback giving the complete history of urban transport in New Zealand from the first horse-drawn tramway (at Nelson) in 1862 to the last trams in 1964 and the situation as it existed in the 1970s – all buses but with EMUs still running on some old interurban tram routes. Because the various municipal authorities in New Zealand purchased from Britain and USA (and built their own designs or made under licence) there was a delightful mix of styles offering a marvellous 'prototype for everything' excuse to modellers. Thus ex London MET trams were there but so were Birney Safety Cars.

British Motive Power Depots:LMR, *by Paul Bolger. £6.95.* **Railways Restored.** *£1.95. Ian Allan Ltd, Terminal House, Shepperton, Middx.*
Most of the great old MPDs beloved of loco spotters in the years of steam are now gone, and those that remain are now converted to house current diesel or electric locos. It is an area where change on the railways has been most noticeable. This book works its way around the London Midland region MPDs(ex-LMS) in BR days only, and for each depot it gives a small but clear track plan in sketch form, plus historical notes, including codes and closure date. Steam loco allocations are given for each depot in 1950, 1959, and 1968, showing in some cases a changing pattern of importance. There are many good pictures. Some depots, like Bidston and Lower Ince, were very small and would lend themselves well to a model layout. Modellers will find this a most useful and interesting source of reference and no LMS enthusiast will want to miss it.

Railways Restored is the official annual of ARPS, the preserved railways group, and this handy publication locates all preserved lines and associated displays in Great Britain, gives stock lists, opening times and dates, and timetables for the major operators like the Bluebell Line. There are many pictures and a master map to show where everything is. It is just the thing for your car's glove pocket – there may be a preserved line nearer than you think as this book covers about 70 and you'll find them all on the right day with the aid of this useful guide.

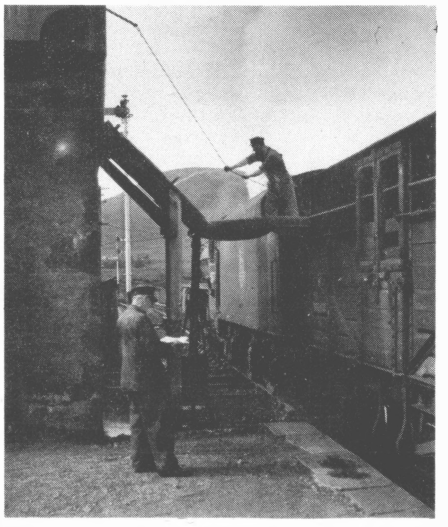
Talyllyn Handbook, Talyllyn Railway. *Talyllyn Railway, Wharf Station, Tywyn, Gwynedd LL36 9EY. 60p each plus postage.*
Two little books here are new to us, but have been on sale at the Talyllyn bookshop for some time. If you model narrow gauge they are both worth having. The *Handbook* is certainly good value for it covers just about everything connected with the Talyllyn Railway – its history, the preservation group, all locos and stock in conventional reference book form, then all the stations complete with a track plan and photos for each. There is yet more in the way of extra information. You may be a freelance modeller but there is a lot in this book to inspire and help any NG fan. The simple track plans for the stations would also interest standard gauge modellers – some are ideal for a narrow shelf. The other book is more of a tourist's guide, with nice pictures and a lot on the history and geography of the line – useful to have if you are modelling a Talyllyn style line.

Profile of the Westerns, *by D.Nicholas and S.Montgomery. Oxford Publishing Co, 8 The Roundway, Headington, Oxford. £5.50.*
Despite a relatively short life and limited service geographically the 'Westerns' have achieved remarkable popularity among railway enthusiasts and this new book should appeal to the many 'Western' fans. It is a pictorial record of the Class 52s and includes at least one photograph of every one of the 74 'Westerns' which saw service on British Rail. All aspects are illustrated from construction to final scrapping and these locomotives are shown in action on passenger, freight and rail-tour workings as well as on shed. Many different railway photographers have contributed to the collection of 163 pictures, none of which have previously been published. The result is a very attractive record of the class in a wide variety of settings throughout the Western Region and, in a few special cases, beyond it. The reproduction is good and modellers will find the photographs a useful guide to detailing for their models. The book concludes with a listing of all members of the class by number and name with details of the date to traffic, last day in traffic, date withdrawn and mileage. There is also a useful livery summary.

Operating Your Layout, Branch Line Railways, *by Michael Andress. Patrick Stephens Ltd, Bar Hill, Cambridge, CB3 8EL. £2.95 each.*
Two latest titles in the 'PSL Model Railway Guides' series, these both have plenty of ideas for all modellers. The book on operating is very useful, especially for beginners since it shows how simple timetables can be got together and how to generate traffic. It also covers basic maintenance. The book on branch lines offers a great deal in the way of schemes for quite simple layouts based on both conventional country branch lines and some industrial ones as well – the coverage of Hamworthy Goods branch, for example, is very interesting. If you seek some ideas for layouts in restricted spaces you would find the book has much to offer.

Clubs and Societies

The Twickenham and District Model Railway Club has recently appointed Brian Self, 50 Inwood Ave, Hounslow, Middx, as their new Hon Secretary.
The Rhyl and District Model Railway Club has recently appointed Stuart N. Hilton as its new Secretary. His address is 18 Elm Grove, Rhyl, Clwyd.
Due to business commitments Mr Dave Stevens has now relinquished his post as Secretary to the **Seachat Model Railway Group** and Mr A.J. Shillito has taken his place. His address is 51 St Peter's Road, Ditton, Maidstone, Kent.



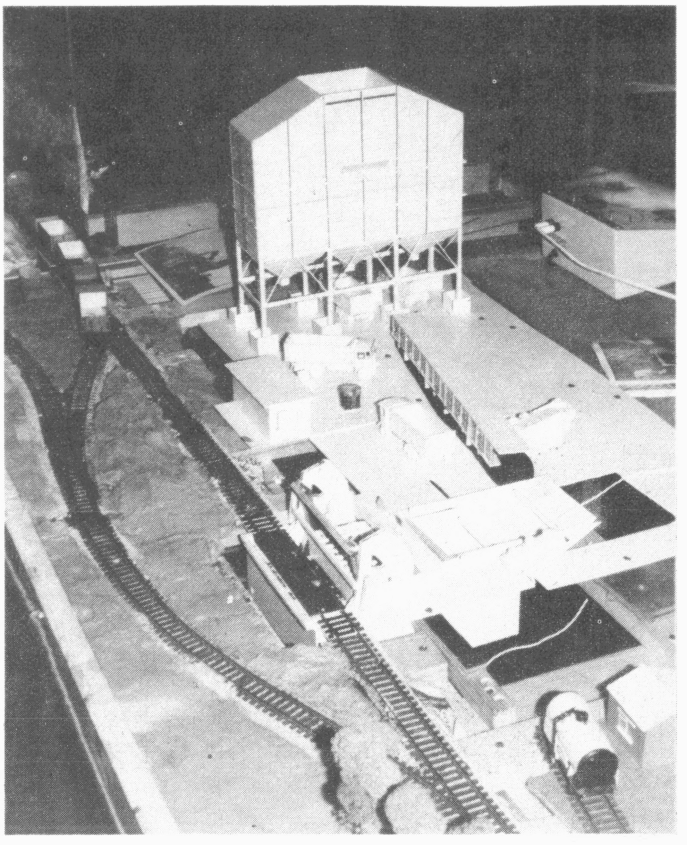
An evocative picture from 1951 shows a freight train hauled by a Stanier 'Black 5', making a stop for water at Achnasheen on the Kyle of Lochalsh line. To support the comments on the previous page, the cattle wagon is still in GWR finish and small style lettering (GWR 38603) and the BR totem on the tender is crooked! (R.M. Pepper photo).

Southfleet in 4 mm scale . . . modelled by Dave Larkin

Never let it be said that we don't practise what we preach at Model Trains! *No sooner had David Larkin compiled the 'Basis for a Layout' feature about the Southfleet branch on page 151, March 1981 issue, than he started to build it in exactly the manner suggested. The layout is incomplete so far, of course, but this gives us a chance to show constructional details which will be hidden when the scenic work is finished. If you want to duplicate the original exactly, then all the structures can be scratch-built from card or plastic card as done here. Look at these pictures with the March 1981 article alongside. The conveyor on Dave's model really works and the coal from the hopper falls into the trucks. But the trucks have a hole in the bottom and stand over a hole, so the coal falls into a plastic bucket under the baseboard for further use. Coal is crushed up lumps from the real Southfleet. Very authentic!*

(1) General view shows the overall site and a train of empty wagons just leaving for Fawkham Junction. The conveyor between the tippler and hopper is not yet fixed in place but lies on the ground in its approximate position. Lower right can be seen the railtank wagon (modified from an Airfix tank wagon kit) and the brick hut. (2) Low level view shows the tippler with an emptied wagon on it with a train of wagons waiting to be pushed forward in turn. (3) A close view of the tippler, made entirely from plastic card as a working pivoted model. (4) It's all worked with strings! Here a young operator tugs two strings to tilt the tippler. A beam holds the wagon in place. (5) Over she goes! A wagon discharging its load of loose coal. (6) Sometimes a second tip is needed, as here, to empty the load.

1



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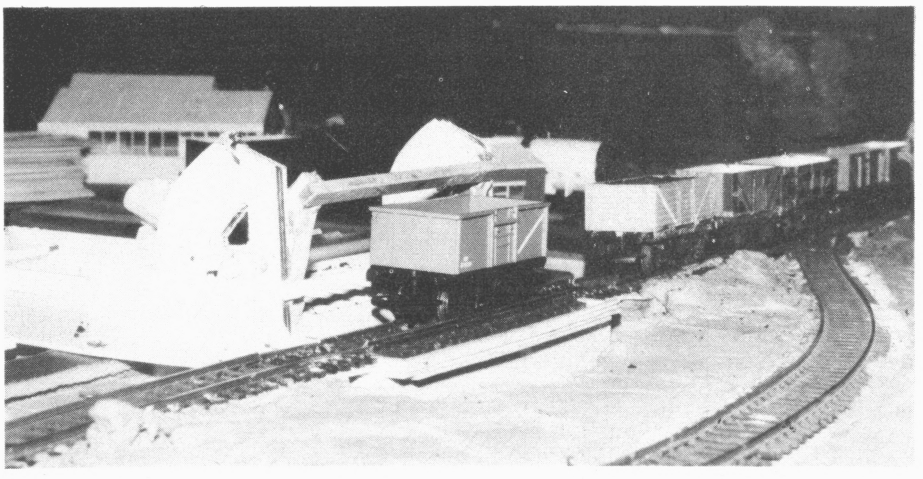

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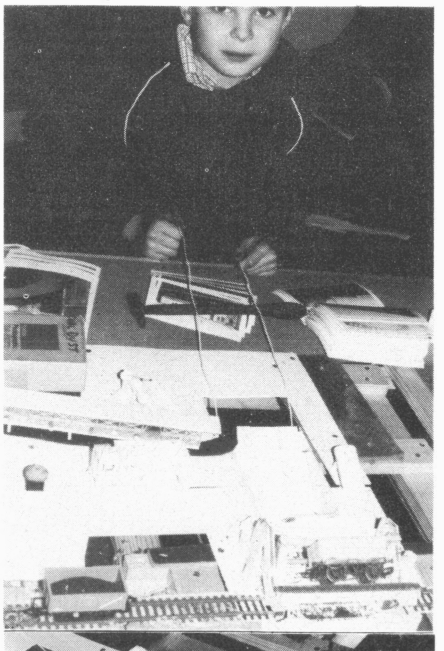

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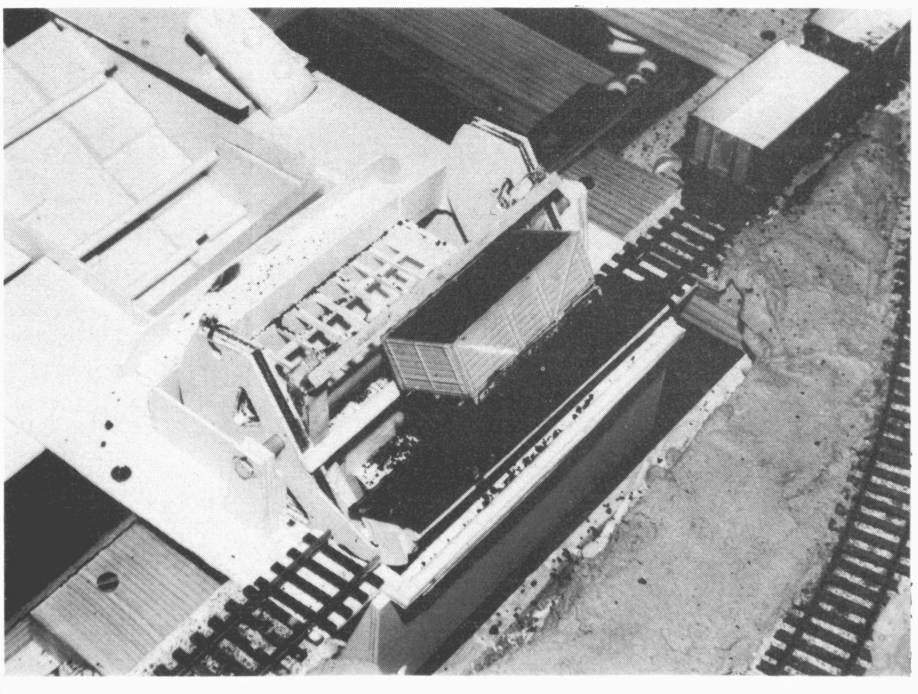

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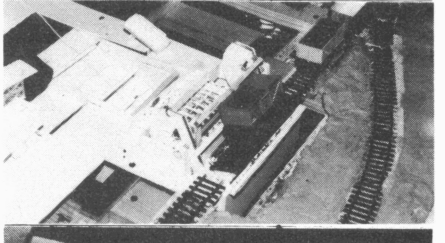

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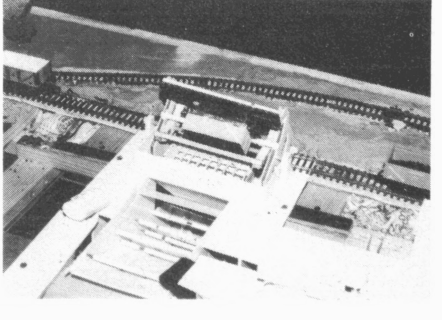


Down by the railroad track . . . a look at an American station

If you have been attracted by the idea of modelling American railways, one area of difference between British and American practice is soon discovered in station layout. Several readers have asked for more on this, so here is a very good one for modellers to copy, Lemont on the ATSF (Aitchison, Topeka & Santa Fe) mainline between Chicago and Kansas City.

For a beginner to US railways, the good old Santa Fe is worth your consideration because it is a huge company, well served with equipment in miniature form, rather like the GWR and LMS in Britain. It is usually thought of as a western or south-western line concentrated in California, Arizona, and Texas, but it reaches east into Chicago and Indiana, with even a few branches in these areas. Lemont, an old town on the edge of the Chicago conurbation, is actually the second station west out of Chicago (Willow is the first), and the Santa Fe mainline is a busy route with heavy freight trains rolling to and from Chicago all round the clock at frequent intervals. In the old days it was also the route of the classic Santa Fe expresses like the *Super Chief*, but today these are replaced by Amtrak services, about nine trains a day in each direction along the route.

Lemont as a passenger station has been long closed down. At this point the Illinois Central Gulf (formerly Gulf, Mobile & Ohio) line runs parallel about 200yds south of the Santa Fe line and local passenger and freight services for Lemont are dealt with at the ICG Lemont station. Santa Fe now use their Lemont station as a base for permanent way maintenance, with PW vehicles as the only occupants of the sidings. However, the station itself is unaltered and is typical, in fact, of many other ATSF country stations which have a similar semi-standardised type of building and similar track layouts.

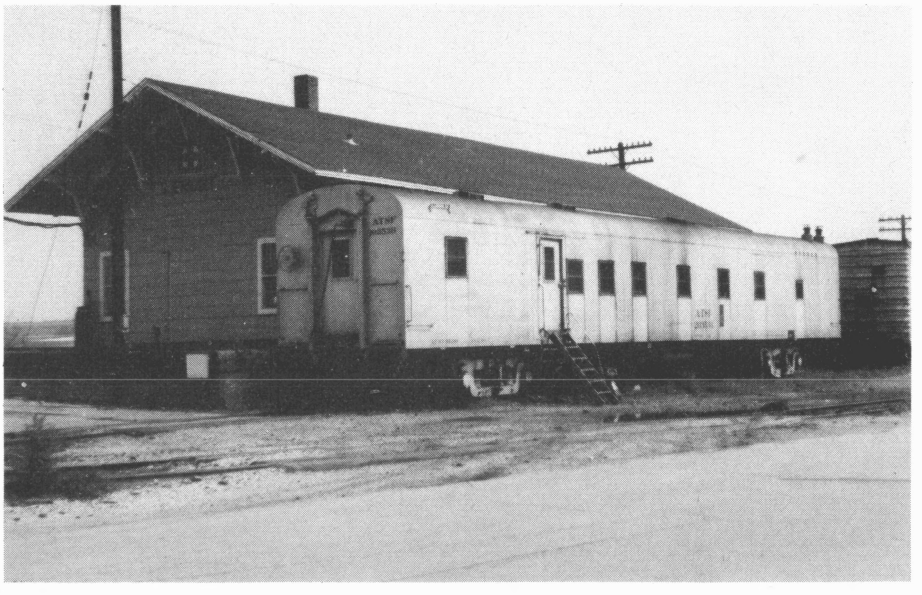
Compared with British country stations, American stations are generally much simpler with a more economical track layout. This is a great help to modellers for the space requirement is generally less, and the long built-up platform is absent, which makes all the difference when space is short and is a major visual advantage when modelling American style. There is no fencing either, of course. Also in the Lemont area CTC is in use so there are no signals nearby, though the line has colour-light signalling in this division.

The passenger waiting room and agent's office is at the west end of the building and the east end is a freight house. The long siding serves this and runs across a service road to the canal to serve an on-line customer, a food and drink distributor. The shorter siding is a 'team track' (so-called because trucks, once horse teams, can get alongside freight cars to unload). Here customers load and unload consignments as required. This could be any sort of merchandise in box cars, flats, or gondolas. As no crane is provided the customer would have to bring his own means of cargo handling if this was necessary (eg, fork lift truck, mobile crane).

This quite common type of station layout is ideal for adaptation on a model. The locomotive of the local 'peddler' freight (same as a British pick-up goods) would normally switch the sidings as required. Note that to reach the warehouse it might be necessary to remove cars being loaded at the freight house, then re-spot them, all adding to loco movements. I've shown an additional 'kick-back' spur to the lumber wholesaler. There isn't one at Lemont now but there may well have been one once, and in model form it adds yet another source of traffic to this very economical station layout.

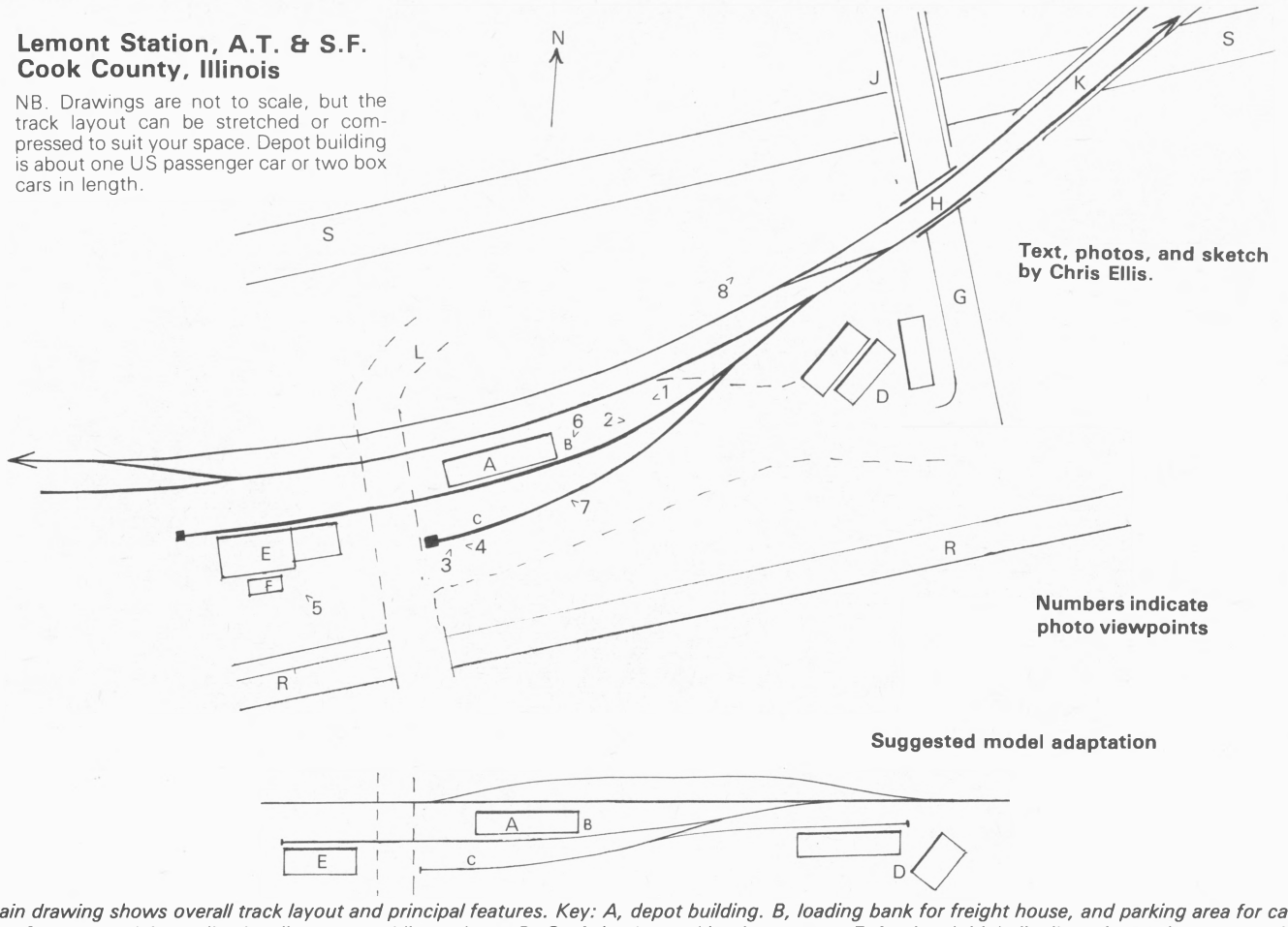
1. *Looking west we see the grey wood shingle-clad depot building. Doors and woodwork are white. Agent's office is in the bay window, giving a view along the track. A van is unloading drums of oil or creosote for the PW stores kept in the freight house. Trailer caravans belong to PW men. Ballast is light grey, and mainline track is heavy section, like Code 100 HO track. Note telegraph poles, and box car spotted by warehouse.*

2.(above) *Looking east we see that the station sidings descend slightly from the mainline. Road to the depot crosses the sidings, passing Gee's lumber and hardware premises. Mainline curves north to cross the canal and some canal-side crane jibs are just visible in the distance.* **3.(below)** *Depot from the west end shows the freight house loading bank, the station name and ATSF logo, and a PWD living car converted from an old 65ft baggage car. Note power lines and telegraph lines all slung from posts.*

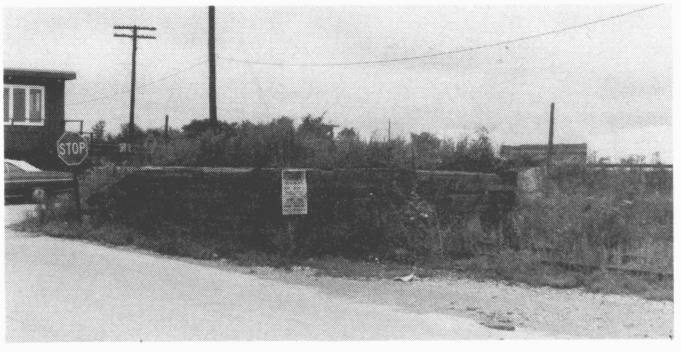


Lemont Station, A.T. & S.F. Cook County, Illinois

NB. Drawings are not to scale, but the track layout can be stretched or compressed to suit your space. Depot building is about one US passenger car or two box cars in length.

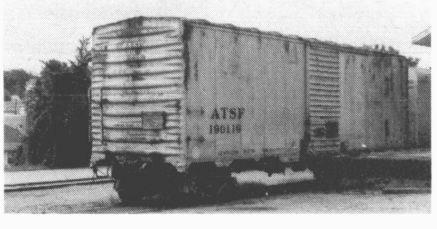


Main drawing shows overall track layout and principal features. Key: A, depot building. B, loading bank for freight house, and parking area for cars, etc. C, team track immediately adjacent to public roadway. D, Gee's lumber and hardware store. E, food and drink distributor's warehouse served by siding. F, ice dispenser. G, Stephen Street, main road north out of town. H, over-bridge of normal plate girder type, painted black. J, road swing bridge over canal. K, rail swing bridge over canal. S, Chicago Sanitary and Ship Canal. L, access road to canal towpath and facilities, with unprotected rail-road crossing. R, Illinois and Michigan Canal (narrow and old). Small drawing shows a typical model layout adaptation with single track mainline and added spur to lumber/hardware supplier for extra traffic, if desired.

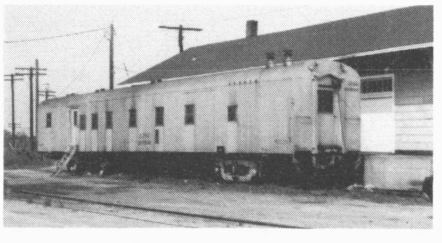


4. *'Bumper' at end of team track is built from old cross-ties (sleepers), filled with earth and rubble. Weeds grow at this end of the track. The bill on the bumper advertises the town carnival which will take place in Main Street on Labor Day week-end. 'Stop' sign is a road traffic signal for the road junction. Wood office block of the warehouse is just visible.*

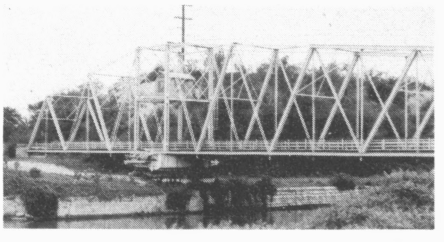
5. *The food and drink distributor has a red-brick warehouse, with ivy growing up the wall, and lots of pallets stacked around. In the yard where delivery trucks load there is a public ice dispenser, red lettering, black penguin, all rather faded from sunlight. This is a rarely modelled item, though often seen in real life.*



6. *Old PS-1 box car stands at the freight loading bank, in use as a tool and supply car. 'Maintenance of Way' vehicles are painted silver-grey with black lettering by ATSF. Note end ladder cut to half height and roof walk removed to conform to latest regulations. Road and town centre just visible beyond.*



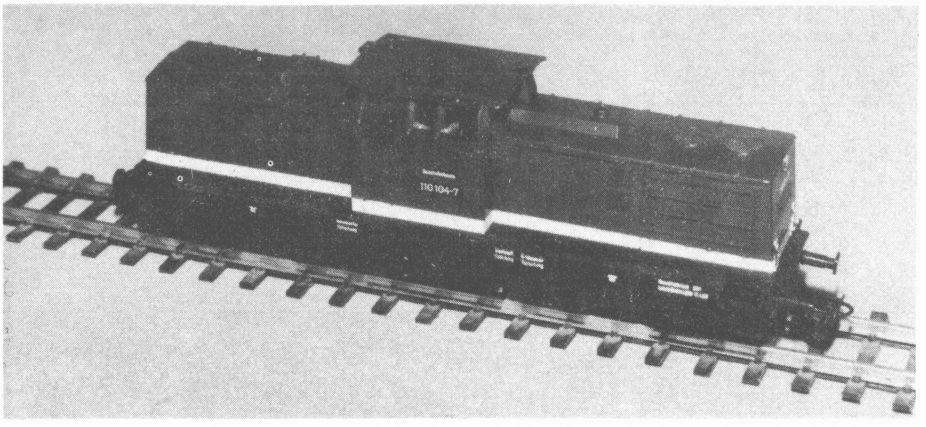
7. *Concrete platform, door from freight house and team track by road can all be seen here. Note that entire depot is hardly longer than the converted baggage car. In model form the Pola Rico station would lend itself to this sort of station and siding arrangement.*



8. *This swing bridge takes Stephen Street over the Chicago Sanitary and Ship Canal (which is wide enough to take quite big ships). The railway crosses further up on a similar shaped bridge which is, however, of much heftier construction and appearance and quite a local landmark.*

TEST TRACK

In this feature we take a closer look at the selected items which are tested and assessed by the editorial staff or contributors



Berliner-Bahnen: DR Class 110, 1:120 scale/TT gauge, UK £19.50

Latest loco from the East German Berliner-Bahnen concern, the only ready-to-run TT makers still in business, is an excellent likeness of the centre-cab Class 110 of 1966-68 vintage. This is the East German (Deutsche Reichsbahn) equivalent of DB's Class 211, a type which it resembles quite closely in looks, dimensions, and power. Suitable for yard work and trip working, it is a handy loco to have in model form and handsome and purposeful in appearance.

The model is finished in the standard DR red/cream with black chassis. Though we have no scale drawing of this type, it looks accurate in all visible detail when compared to pictures from all angles, and the model dimensions check out precisely in 1:120 reduction to all prototype dimensions quoted in various reference books. The only missing details we can spot are one or two small grab handles (which would be very tiny in this scale) and the short stanchions flanking the end platform steps which are not too noticeable even on the real loco and would be rather vulnerable if provided. They could be added by the purchaser, using fine track pins perhaps. The model is numbered 110 104-7 from the first production series of 170 locos. There are no lights, but brilliants in the marker light positions give a good effect of working lights.

Motor is the standard sealed Berliner unit housed within the cab and driving the inner axles only via cardan shafts. The model is actually a '2-4-2' rather than a Bo-Bo since only the outer axles are flexible and loose bogie sides give the impression that the bogies are flexing when the centre axles actually form part of the rigid wheelbase – very clever. Pick-up is on all rims and one pair of wheels has traction types. Finish and lettering on our sample is good, though slightly better small lettering is done on one side compared to the other. Cab windows look flush, another clever illusion, because on close inspection they are actually recessed!

On the track the model runs superbly, though with a slight judder visible when full power is applied at the highest setting. We got the best slow running at high resistance/half wave using a H & M Clipper for testing. Straight from the box at this setting we got a respectable 2min 10sec along a yard of Gem track, but we resisted the temptation for further time trials, even though we achieved slower than this later on. Performance overall was fully up to the standard of other Berliner-Bahnen locos we have tested, though not quite so good as the larger diesels like the DB Class 221. Overall verdict: good value for money.

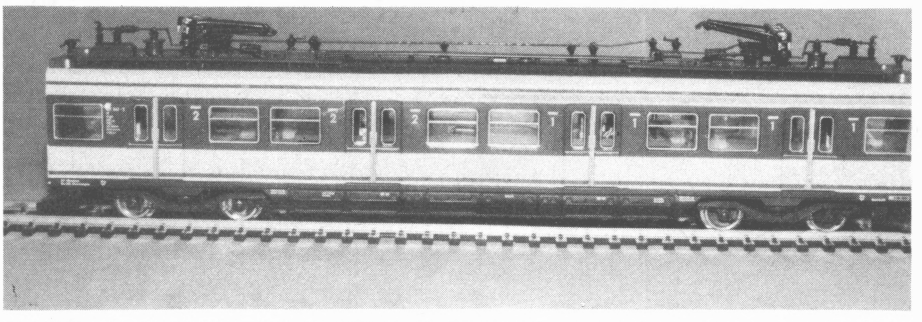
This model is available by post from the importers, Eastern Models, TT Dept, 91 Otley Drive, Gants Hill, Ilford, Essex 1G2 6QY, and this firm supplied our test sample.

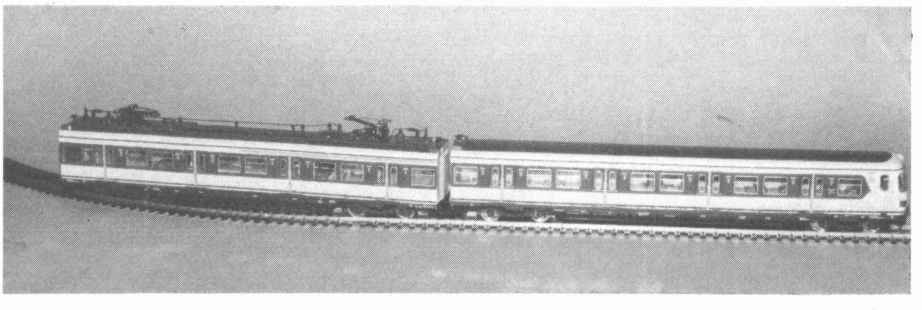
Roco: DB Class 420/421 S-Bahn, 1:87 scale/HO gauge, UK £53.60

This is a release of a few years back, though only recently arriving with us for test. The Class 420(control car) and Class 421(centre power car) running as a set is an important DB type now in wide service for commuter traffic in the larger German conurbations. First in service in the Munich area in 1972 for the Games, they are sometimes known as 'Olympic' sets. Munich sets(our sample) are grey/blue, Ruhr area grey/orange, and Frankfurt and Stuttgart grey/red. Roco offer all these variations.

The models are detailed to the now accepted degree we expect from Roco – inside and out. There are even grab handles moulded on the interior partitions and the seats are separately coloured mouldings. All windows are flush with bright surrounds. Masses of small lettering is carried on the underframe and all cars have different numbers. The instruction sheet gives the correct prototypical order of coupling. A sprung 'plug in' swivelling coupling carries the wiring through the set and allows 14in radius curves to be traversed even at scale spacing between the cars. Dummy outer couplings are supplied, to be fitted by the purchaser, as are self-adhesive names (a good selection) for the destination boxes. The power car carries the folding pantographs and has a flat motor (with cardan shaft drive) below waist level replacing the centre seats. A screw in the motor top is turned to select track or overhead pick-up. The roof must be levered off to gain access to this.

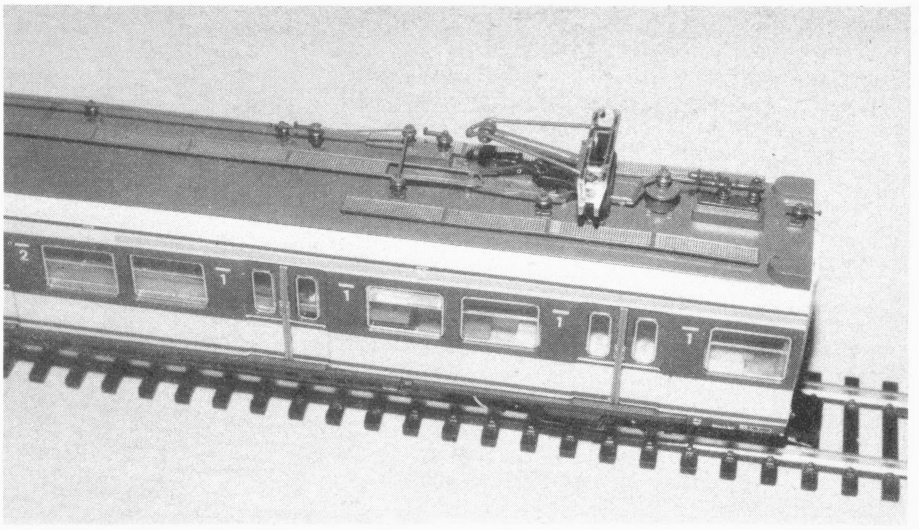
All dimensions check out against published figures, including overall length(744.7mm) of the complete set, which is to exact scale. A tiny scratch in the blue paintwork of the centre car





(probably caused during packing) was the only blemish on the impeccable finish of our model and even this was easily touched out in seconds. The only possible improvements would be addition of driver and passenger figures and, perhaps, the blackening of the bright wheel centres.

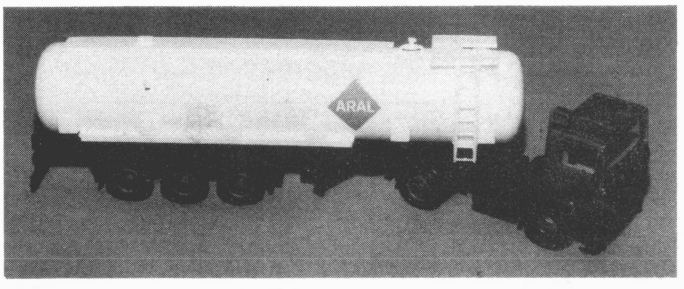
On the track, performance is smooth and unfailing, matching more or less exactly that of the vintage Class 485 set by the same maker (see page 156, March 1981 issue). If you model the modern German scene, then this fine 'showpiece' set must be a candidate for your consideration – excellent engineering which is unlikely to disappoint. Our sample was loaned for test by major Roco stockist Howes, 9-10 Broad Street, Oxford, who can supply by post if you've no local source.



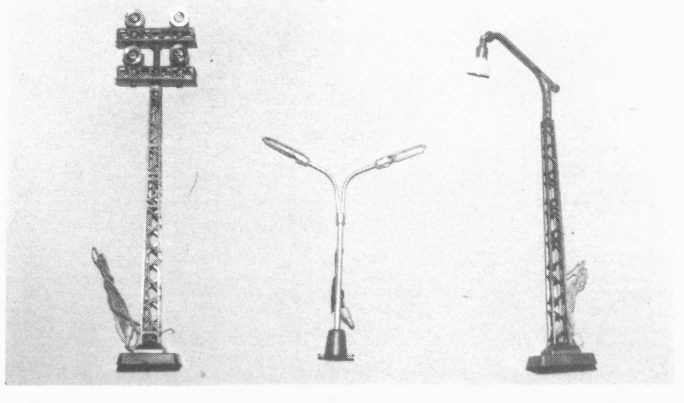
Shopwindow
NEW KITS AND MODELS.

New items of interest to railway modellers are reviewed by the editorial staff or contributors and opinions expressed are theirs, not necessarily the views of the publishers. While every effort is made to give latest catalogue or recommended retail prices, prices quoted should be taken as a guide only due to variations in discounts, ex-charge rates, taxes, and postal rates. Most items are generally on sale in usual outlets, but addresses of suppliers are given where there is only limited availability.

Herpa: Volvo F10 tanker, 1:87 scale, UK £2.55
Another recent release in the Herpa range, this fine model depicts a Volvo F10 tractor unit with a 6-wheel Aral tanker semi-trailer, all beautifully detailed and marked. The tractor unit is detachable and there is a hinged support on the front of the semi-trailer. The model is available in several other oil company finishes. Our sample came from Victors, 166 Pentonville Road, London N1, who hold stocks of the entire Herpa range.



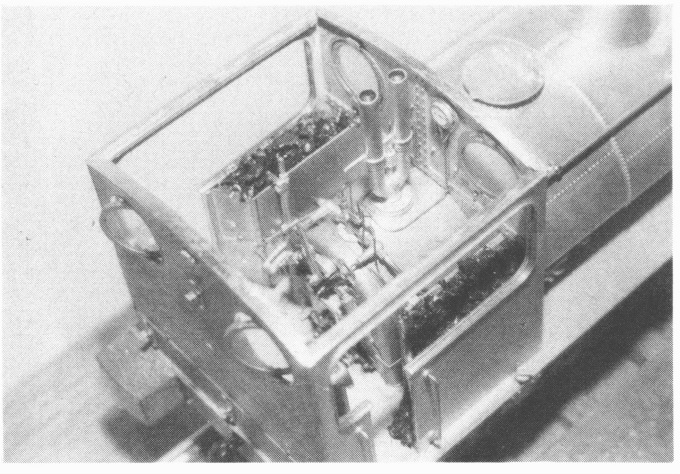
Rotafast: Lighting equipment, 1:87 scale, prices in text
Terratoys Ltd, 12 Maltings, Harrowby Road, Grantham, Lincs, have released a completely new range of model layout lighting equipment which is made in Hong Kong and has a high standard of finish and strength. Nominally the models are scaled for HO, which obviously makes them suitable for 00 as well. However, some of the larger models will also be suitable for 0 gauge use. Typical is the yard floodlight (UK £3.75) and yard spotlight (UK £2.25) both of which stand around 185mm high and are thus characteristically tall for use in 00/HO yards but are tall enough also to look quite acceptable when used with 0 scale models. Finely moulded lattice work and neat bulbs and wiring, plus securing holes in the bases, make these lights ready for instant use. You just need a hole in the baseboard through which to take the leads before securing them to your lighting circuit. In addition to these two tall lights we had a double fluorescent street light (UK £2.80) of modern style and a pair of older style 'boulevard' (ie, street) lights sold as one item (UK £2.50). These are very pleasant models to look at. SAE to Terratoys Ltd will bring a full leaflet, for there are many other items in the range including an illuminated advertising sign.

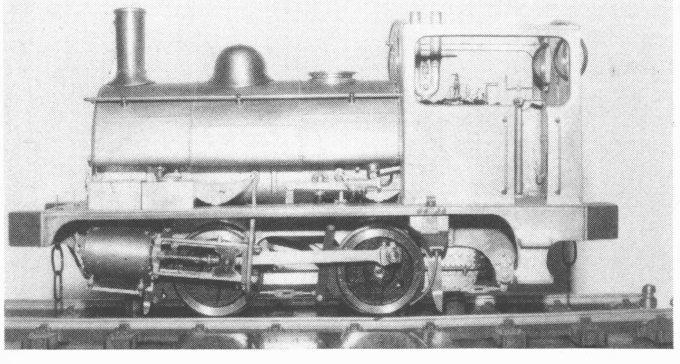


Smiths Model Components & Supply: Midland Railway seat kit, 1:76 scale, UK 90p
Smiths produce a useful range of model railway details and accessories. This etched brass kit is for two station seats of the standard Midland Railway style, which lasted through LMS days until British Railways times. The parts are delicate and should be detached and handled with care. Assembly is straightforward using a cyanoacrylate adhesive such as Loctite Super Glue 3 but make sure that everything is square before fixing the parts together. The instructions are clear and include suggested Humbrol paints for Midland, LMS and BR colour schemes. The completed models should enhance the station scene on any Midland Railway, LMS or Midland Region layout. A SAE to Smiths Model Components & Supply, 121 Wellsford Avenue, Solihull, West Midlands B92 8HB will bring you details of their range of products.

BKL:Ford 'Y' Saloon 1934, 1:76 scale, UK £2 inc p&p
Auto Replicas Ltd are well known to car modellers for ranges of 1:43 and 1:24 scale quality cast metal kits. The associate company, BKL Developments produces items in various scales for railway modellers. Most recent cast metal kit is this Ford 'Y' Saloon of 1934, which will add interest to the road scene on any 00 gauge layout of a period from the 1930s onwards. On a modern period model railway one of these modelled as a restored veteran would make a nice touch scenically. Flash is not excessive and is easily removed with a fine file. The parts fit together well and assembly is straight-forward so that even the beginner should have no difficulty in producing a neat model. The kit is available by post from BKL Developments, 56a Sandbanks Road, Parkstone, Poole, Dorset.

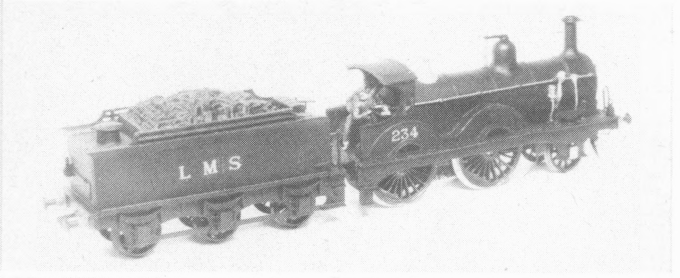
Sevenscal: Locomotive parts, 1:43 scale, prices in text
Since describing the Sevenscal 0 gauge 'Pug' kit in the July 1980 issue, we have had an opportunity to examine this finely detailed model and see it working. It is certainly even more of an eye-opener 'in the flesh', for the cab windows actually pivot to open, the levers in the cab all work, and even the firebox door opens when the correct handles are moved. The detail work is astonishing and the model runs well and smoothly. The pictures show the demonstration model. Useful news for 0 gauge modellers is that virtually all the parts supplied in the kit can be purchased as separate items for use in conversion work or detailing with other models. Thus we have a tank filler (24p), smokebox door handle (18p), stove-pipe chimney (45p), dome (66p), loco springs (84p for a set of four), and a beautiful safety valve casting (24p). So it goes on for virtually every individual part of the model. All parts are neatly packaged and are as clean and sharp as any cast components we've seen – indeed very much neater than most. Very useful for building work is the set of two-rail pick-ups, designed for the 'Pug' but usable on virtually any model in 0 gauge. These cost £1.80 in four- coupled form and £2.55 in six-coupled form. VAT must be added to all these prices. A full list is available in return for a SAE to Chuffs Model Train Peddlers Ltd, 86 Friars Street, Sudbury, Suffolk.

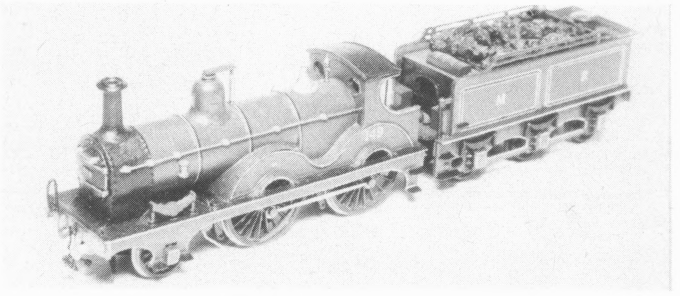




Ratio: LMS (Ex-Midland) Johnson 2-4-0 Locomotive and Tender kit, 1:76 scale/00 gauge, UK £15.59
This kit is not new but it has not been reviewed previously in *Model Trains*. It certainly warrants mention in this column not only because of its quality but also because it remains unique in the combination of materials employed. Between 1876 and 1881, 135 Johnson designed 2-4-0 locomotives were built for the Midland Railway the main difference between them being in the size of the driving wheels ranging from 6ft 3in to 7ft 0in. The majority were the 6ft 6in and 6ft 9in driving wheel versions and this kit represents the former of these. No less than 132 of the engines entered LMS service in 1923 and some of these were rebuilt with belpaire fire boxes from 1926. Only three engines survived into BR days the last being withdrawn in 1950. They were designed for express passenger working but in later days were used on local passenger trains.

The kit combines plastic mouldings and metal parts making for simple construction and excellent detailing. The locomotive body parts and all the tender parts are moulded in plastic with Ratio's usual high standard of detail and finish. Chassis frames and connecting rods are etched brass and the locomotive wheels are metal with integral half axles arranged to fit so that correct quartering is automatically achieved. The kit is remarkably complete including motor, gears, properly shaped ballast of lead, hand rail knobs and wire, transfers and even a cast metal crew. The only items the modeller must purchase in addition are adhesive and paint. Assembly is straightforward and is clearly explained in the instructions which include both written description and exploded diagrams. Anyone who has some experience of plastic wagon kit building should be able to tackle this model successfully particularly if the simple plain black livery is chosen rather than the very attractive but more difficult to paint lined



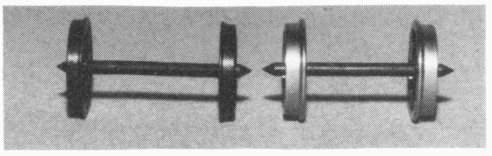


crimson lake livery. This is an excellent kit which builds into a fine model and when the completeness of the kit is taken into account it is clearly good value. First photo shows the Ratio 2-4-0 in the plain black LMS livery and the second shows it in the more elaborate pre-1928 fully lined Crimson Lake livery.

Studiolith: RP25 wheel sets, 1:76 scale/00 gauge, prices in text
Studiolith Ltd, Rofford, Little Milton, Oxford, make the vast Protofour range of track components, wheels to P4 standard, and many useful accessories (including rolling stock parts). There is a 34 page catalogue listing hundreds of available items for those who wish to model to the fine scale P4 4mm standards. Many accessory items (such as couplings) are equally suitable for use with ordinary 00 gauge models. Send 50p and a large SAE to Studiolith if you want the useful catalogue.

Now Studiolith have gone further towards helping the 00 modeller by making all their different wheel styles available gauged for 00 (16.5mm) but fitted with tyres to RP25 standards. RP25 is a term we've often used in these pages in the past. If you didn't know before, it stands for Recommended Practice No 25. This originated in USA where NMRA (National Model Railroad Association) have come up with many ideas for standardisation over the years so that manufacturers can all work to a common ideal. With RP25 they commended an acceptable wheel profile of shallow flange but relatively wide tread, coned in section to give the optimum ride on the rails. The tyre gives an illusion (in 00/HO) of 'fine scale' appearance though in reality it is best described as 'coarse scale of good appearance'. It is a vast improvement over the old 'steam roller' wheels of years past, and stock so fitted can run on fine scale track (Code 70 instead of Code 100.) Most American models, including the mass market items such as Bachmann's and Tyco's, have RP25 wheels, and there is an 0 gauge version too. No British outline mass market models known to us have RP25 wheels, all being much coarser and with deeper flanges than the RP25 standard. A few British wheel makers in the past have produced wheels with RP25 tyres, but Studiolith seem to be the first with a full range of every type of wheel. The wheel centres are the standard fine scale P4 type, but with tyres of RP25 profile. You can simply buy the wheels you need and substitute them for the coarser wheels on ready-to-run wagons to

get a better looking vehicle. Typical price is 40p per axle but some are more expensive – the prices in other words are the same as for the P4 wheel sets listed in the catalogue. These are all British type wheels, of course, spoked, 3-hole, etc, but the smaller diameters would probably fit Continental outline rolling stock (which also has deep flanges), though we have not tried this. The picture shows a P4 wheel set with the 00 gauge RP25 equivalent set to the right. The difference in both gauge and section can be clearly seen. The compensating system used for P4 can be used on wagons fitted with the RP25 wheels.



Pro-Scale: Welsh Highland Railway Semi-Open 3rd Coach 0-16.5, 1:43 scale/On 16.5 gauge, UK £13.80

Narrow gauge modellers will be pleased to see another firm producing high quality etched brass kits. This kit contains all the necessary parts to construct a bogie coach originally built in 1894 by the Ashbury Carriage and Wagon Co for the Welsh Highland Railway. Two coaches (23 and 26) were 'acquired' by the Festiniog Railway when the WHR was closed in 1936. The two coaches were refurbished (practically rebuilt in the case of No 26) and introduced into regular service by the late 1950s. In 1965 (No 23) and 1966 (No 26) the coaches were rebuilt yet again. This time full length doors were added instead of the half size doors of the original. The kit represents a coach of the period up until 1965-66.

Etched brass certainly comes into its own on a model like this. The planking and detail is enhanced to the full, assembly is made easy by pre-punched, pre-bent components. Hinges and handles are supplied separately to give the correct appearance. The bogies are cast metal, supplied in three pieces. Assembly is aided by locating pins to ensure accurate alignment – a very sensible idea. The only parts not supplied are seats and glazing. A sketch of a seat unit is shown on the instructions diagram, with all the necessary dimensions, so that the modeller can fabricate them from plastic card. Couplings are left to the modeller to decide upon and slots are provided in appropriate places to acept whatever coupling is favoured. Highly detailed instructions are provided in both written and illustrated form. Our sample came from the stockists, Victors, 166 Pentonville Road, London N1.

Pro-Scale:Festiniog Railway quarrymen's coach, 1:43 scale/On 16.5 gauge, UK £6.50

The Festiniog Railway owned large numbers of these small, uncomfortable coaches. Their main use was for the transportation of quarrymen to and from their respective places of work. This kit is a model of the Type 3 coach, introduced around 1885.

The kit is of etched brass and is supplied pre-punched and pre-bent in order to make assembly easier. This is of great importance as large numbers of these coaches would be made up into one train! You need several to duplicate a train. Assembly is straightforward, but it's not for a complete beginner. Our sample was supplied by Victors 166 Pentonville Road, London N1, who can supply by post, postage extra.

H & M:Loco Tester, 16.5mm gauge, UK £11

The H & M Loco Tester is really a 'rolling road' for trains. It comprises a wooden stand to which a piece of 00 gauge track has been dropped to accommodate up to six pairs of wheel rollers. These can be positioned at any point convenient in order to fit a large variety of different model locos. The step in the track enables tender locos and long diesels to be fully supported and have all their wheels in position to collect current. Power is supplied via a pair of leads supplied with the tester.

The tester can be used in numerous ways. Its primary use is going to be for maintainance. If you have ever tried to find out where the valve gear of a loco is making a strange clicking noise, you'll know it is not easy. To follow it around the track listening is impractical and nine times out of ten, it doesn't make the same noise if run off the track, wired straight to the power. However,

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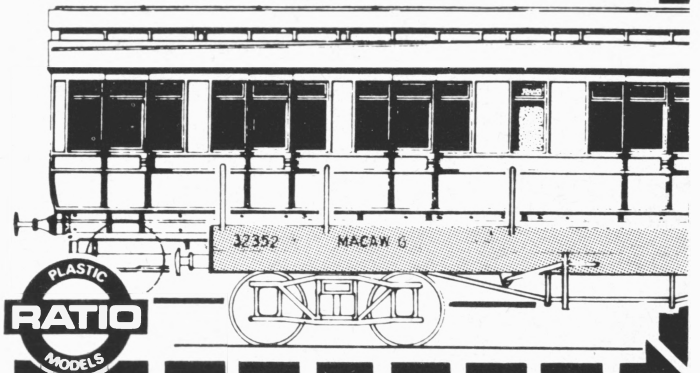

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on the tester the loco is running in much the same way as it would on the track but not going anywhere. In this situation the fault could be found far more easily. This of course is only one instance. It can be used for running in demonstrations, and tests with different kinds of power unit.

The tester is a most welcome piece of equipment and well worth the investment for anybody who is running models on 16.5mm gauge track. Most large model railway shops will stock it.

M & R: Grab adhesive, UK 90p

This is a useful adhesive which has been off the market but has now been re-introduced. It is a modeller's glue which has been produced specially for sticking down scatter and flock material, and ballast in track. The special feature of this glue is its 'tacky' nature. Once applied to a given area it stays sticky for a long time until flock or scatter material is sprinkled over it. The great value of this is to eliminate any rush while scenic work is carried out – you don't have to get everything in place before the glue dries for this glue doesn't dry until the scatter material covers it. Hence you can leave the layout for a few days and return at will to carry on where you left off at the last session. When it comes to track ballasting this is a particularly helpful characteristic because the glue can be applied, the track positioned, and the ballast added later rather than straight away before the glue dries. We have had a sample of this, and certainly lives up to the maker's claims after an initial test. We'll use it on some further projects and see how it goes in the longer term. Grab should be available from your local model shop.

Tenmille: Wagon accessories, 1:32 scale, prices in text

Tenmille Products, Micro-Mold Ltd, Station Road, East Preston, Littlehampton, West Sussex, have sent samples of the various wagon building accessories they have just introduced for gauge 1 models (1:32 scale). The advent of these is a welcome development, for though there are gauge 1 accessory items to be had, these new ones are to the same high standard as others previously available in O or 00 sizes, and the prices are relatively modest. All these pieces are included in the new gauge 1 wagon kits (review shortly) which Tenmille have produced, but all the parts are sold separately as well for the benefit of scratch-builders and converters. First item is a set of RCH pattern wagon buffers, beautifully moulded in black plastic and provided with brass fixing nuts (UK 70p). Next is the RCH pattern 3-link wagon coupling, with brass links, blackened metal hook, and spring, to dead scale size and well machined (UK 72p per set), and finally we have the RCH brake gear set, brake levers, frames and blocks all in black plastic for simple assembly. The instruction sheet shows how they can be adapted for 10ft wheelbase wagons; they are used as supplied for 9ft wheelbase (UK £1.25). Quality of these items is excellent. The couplers would be useful to those with Märklin gauge 1 wagons wishing to replace the auto-couplers with scale items, as the RCH 3-link coupler was not very different from the German pattern. While these sets may be available from shops stocking gauge 1 models (can't be very many of them!), you'll certainly get them by post from the makers, allowing a little extra for postage. Tenmille will supply a price list of all items in return for a SAE.

ABS: Talyllyn Steel Open Wagon, 1:43 scale/On16.5 gauge, UK £2.64

ABS Models, 39 Napier Road, Hamworthy, Poole, Dorset, have a good range of On16.5 rolling stock models based on actual prototypes. We have had the steel (or iron) standard Talyllyn open wagon quite small even in this scale. It is cleanly and sharply cast, almost flash free, and has standard 00 wheels supplied. Assembly is straightforward and simple. Scale couplers are supplied – very small – and some modellers will wish to fit auto-couplers to fit their own systems. No provision is made for this but it should be easy enough. These wagons were also used to carry passengers (with a plank seat added). The instruction sheet is good and informative. Others in this 'Wright Lines' series (same price) are a 2-plank open and 2-bar slate wagon, also of Talyllyn prototype.

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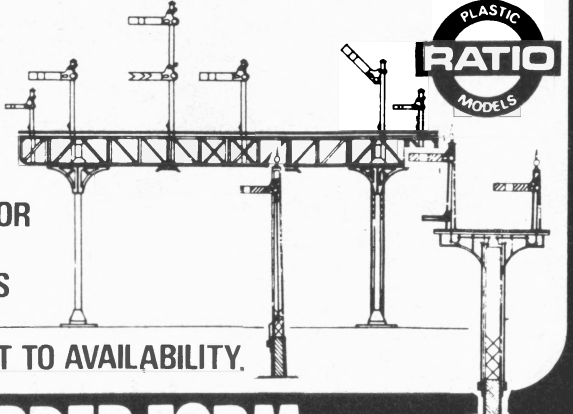

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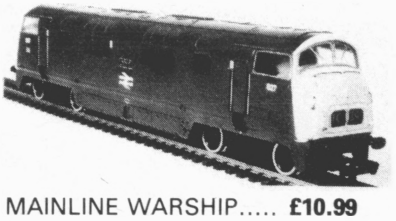

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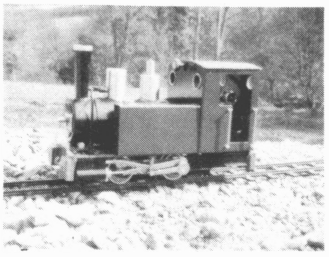

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